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ABSTRACT

This collection of client outcome measures is designed to enhance the program evaluation capacity of state vocational rehabilitation agencies and to assist program evaluators in the selection of appropriate instruments through information about client measures in the areas of functional limitations, client change, client satisfaction, and client retention of benefits. The introduction discusses the selection process for inclusion of instruments in this monograph, indicating that the 40 instruments vary in terms of characteristics measured, intended clientele, developmental origin, and intended setting. Each instrument summary contains information on the developer, purpose, description, use, administration, scoring, reliability, validity, advantages, limitations, references, availability and, in most cases, sample items or the instrument itself. Measures are classified according to: (1) employability; (2) independent living skills; (3) client perceptions; (4) client satisfaction; and (5) miscellaneous. Within each category, instrument summaries appear alphabetically by title. Indexes are also provided by instrument title and by developers' names and affiliations. (Author/NRB)

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ED212959

Michigan Studies in Rehabilitation

Utilization Series: 5

CLIENT ASSESSMENT MEASURES IN REHABILITATION

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By

Don K. Harrison

Jill M. Garnett

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ACKNOWLEDGEMENTS

This monograph, Client Assessment Measures in Rehabilitation, was developed for the National Institute of Handicapped Research as part of the University of Michigan Rehabilitation Research Institute's mission to enhance the program evaluation capacity of state vocational rehabilitation agencies.

Special thanks are extended to all those who have responded so kindly to the inquiries and requests made by the Institute in the development of this monograph: first, to those in the state agencies who provided input on measures actually used in the states, and second, to the developers of the measures summarized in this monograph -- for their contributions to the field of client assessment and for their cooperation in providing materials and input to assist the Institute staff in this effort. Their assistance was crucial to the completion of this project and gratifying to those involved at the Institute.

Appreciation is also expressed to former Institute staff members, Dr. Juliet V. Miller and Mr. James F. Wargel, for their efforts in the preliminary stages of this project; to current Institute staff, who were extremely helpful in providing administrative and secretarial support; and to the National Institute of Handicapped Research for the general support of the University of Michigan Rehabilitation Research Institute.

PREFACE

The University of Michigan Rehabilitation Research Institute (UM-RRI) was established in 1976 with funding from the National Institute of Handicapped Research in response to the mandate of the Rehabilitation Act of 1973 that rehabilitation programs and projects be evaluated. The UM-RRI's efforts are directed toward research and related activities to assist states in evaluating management practices and service delivery systems.

The UM-RRI has been working on several long and short range objectives in rehabilitation program evaluation to:

1. Develop alternative conceptual models that may be used as a framework for comprehensive program evaluation in the state-federal rehabilitation program

2. Conduct research on existing program evaluation instruments to determine their feasibility for current use and to determine their need for additional development and validation

3. Identify, design, develop, test, validate, demonstrate, and disseminate program evaluation instruments, techniques, and methodologies that are consistent with conceptual models for comprehensive program evaluation in rehabilitation

4. Develop criteria for designing, developing, testing, and validating new and existing program evaluation instruments, techniques, and methodologies that consider measurement of impact, effectiveness, effort, efficiency, and output

The production of this monograph on client assessment measures in rehabilitation is consistent with these objectives of the UM-RRI.

Don K. Harrison
Jill M. Garnett
Albert L. Watson

Ann Arbor
October, 1981

INTRODUCTION

Rationale for a Collection of Client Measures in Rehabilitation

The closure status "rehabilitated" or "not rehabilitated" is used when the state-federal vocational rehabilitation (VR) program attempts to evaluate the success of rehabilitation services on the client. If the client obtains gainful employment following program acceptance and the provision of rehabilitation services, the client is considered to have been rehabilitated (Status 26). If the client does not obtain employment after acceptance and provision of service, the client is considered to have not been rehabilitated (Status 30).

Other measures of client outcomes, in addition to employment status, can broaden the picture regarding the impact of rehabilitation services. Several general questions may illustrate the type of information that may be useful: (1) To what extent does the client perform self-care activities at the time of closure compared to the time of acceptance? (2) What client changes have occurred physically, socially, and psychologically which may be attributed to rehabilitation services? (3) How satisfied is the client with the rehabilitation services? (4) What kinds of benefits are being maintained by the client after the cessation of rehabilitation services? These questions suggest multiple criteria.

The consideration of multiple rehabilitation outcomes, rather than the single outcome of employment, is consistent with provisions in the Rehabilitation Act of 1973 and its amendments, reflected in the funding support for research and demonstration projects on independent living rehabilitation (ILR). Moreover, determining the multiple gains that each client may have made as a result of rehabilitation is consistent with a definition of rehabilitation which focuses upon individual client need: the restoration of the individual to the maximal level of functioning possible -- medically, physically, mentally, psychologically, vocationally, and economically.

Measurement Beyond Status 26 Closure

If one wishes to go beyond closure status and obtain additional data on VR impact, the selection of appropriate measuring instruments becomes an important process in the program evaluation. The accuracy and appropriateness of the data gathered certainly influence the legitimacy of subsequent findings and recommendations. As part of the UM-RRI's mission to enhance the program evaluation capacity of state VR agencies, this monograph on client outcome measures was developed to assist the program evaluator in this selection process. The monograph intends to provide program evaluators with further information about client measures in the areas of functional limitations, client change, client satisfaction, and client retention of benefits.

The need to disseminate information on measures of client assessment seems apparent from the results of a state survey conducted in 1980. Survey results indicated that many client outcome measures used by program evaluators in the state-federal program were limited to the areas of client satisfaction and retention of benefits. Such instruments were used to comply with the reporting requirements of the Federal Evaluation Standards. While such measures serve important needs of program evaluators, the intent of this monograph is to assist program evaluators in expanding their efforts in the area of client outcome measurement by increasing their awareness of the various ways of measuring the impact of rehabilitation services on clients.

The Instrument Selection Process

Several approaches were taken in the search for appropriate measures for inclusion in this monograph. A discussion follows of the key points in this process and the collection of measures that has resulted.

Computerized Literature Search

A computerized search of the literature was among the steps undertaken to uncover relevant assessment measures. Among the data bases searched were Educational Resources Information Center (ERIC), Psychological Abstracts, National Technical Information Service (NTIS), Government Printing Office Monthly Catalog, and MEDLINE. Promising abstracts were researched and pertinent information located. Additional materials on hand in the UM-RRI library were also reviewed.

State Agency Input

In addition, inquiries were made to each of the 84 state-federal rehabilitation agencies in the 50 states and the territories, regarding instruments actually being used in the state agencies. Agencies were asked to focus on measures of functional limitations, client change, client satisfaction, and client retention of benefits (follow-up) that had been used recently, were currently being used, or were going to be used. Seventy-four percent of the agencies (both general, combined, and blind) responded. Ninety-nine state agency-developed instruments were received in the following categories:

Client satisfaction	21
Follow-up	4
Combination client satisfaction/ follow-up	40
Client change	17
Functional limitations	11
Miscellaneous	6
	99

Many of these instruments concentrated on the collection of data limited to the areas of client follow-up and satisfaction requested by the Federal Evaluation

Standards. Only a small portion of these instruments examined client functioning and how rehabilitation services had affected it.

Instrument Selection

From the literature search, the state agency input, and the UM-RRI collection, a working list of 50 promising measures was compiled to be considered for inclusion in this monograph, realizing that this effort represented a beginning rather than a final point in identifying instruments on rehabilitation assessment. Measures were "promising" if they had the potential for use in state-federal rehabilitation settings for client assessment and especially if they had potential for use in program evaluation. Some of these 50 measures were later deleted and others added; some measures were later found to be inappropriate or there was not enough information available on them and some measures were located that belonged in this collection of measures. Finally 40 measures were selected for inclusion in the monograph.

The 40 instruments fall into five categories of coverage:

1. Measures of employability assess factors related to the ability of a client to obtain and maintain employment successfully. These factors may include physical, intellectual, psychosocial, economic, and environmental areas as well as vocational areas of functioning. However, the primary focus is on how these factors relate to a client's employability.

2. Measures of independent living skills assess factors related to the ability of a client to take care of his/her own affairs and to participate in society. Areas assessed may include activities of daily living, self-care, mobility, and psychosocial well-being. Work-related areas may be involved but are not the primary focus.

3. Measures of client perception include measures that assess clients' views of themselves, the world of work, or the ideal job.

4. Measures of client satisfaction include measures that assess clients' satisfaction with VR services, training provided, or their jobs.

5. Miscellaneous measures include those that do not fit neatly into another category. They may mix the assessment of employability and independent living skills or be appropriate assessment systems for any content area.

The 40 measures vary as to characteristics measured, clientele for which intended, origin of development, and setting of intended use. As mentioned above, the areas assessed range from employability to independent living skills to client perceptions and satisfaction. In addition, the instruments were developed by people in rehabilitation research institutes and centers, universities, state agencies, rehabilitation facilities, and hospitals. Some were specifically designed for use in rehabilitation settings, others were not. Some serve specific client populations while others are suitable for all VR clients. Some are intended for program evaluation while others are more appropriately used with individual clients in the counseling process. However, they are all measures that could be used in VR settings. Their inclusion in this monograph represents a starting point in the process of helping rehabilitation professionals become more aware of the diversity of instruments that have been developed -- by research facilities, state agencies, and practitioners in the field -- for possible use with disabled persons and to encourage the use and further development of appropriate measures in this field.

This monograph is not exhaustive in its coverage of the field of rehabilitation assessment. It does not claim to represent the whole picture, only the best instruments available, or even all of the best instruments available. It is a collection of measures that appear in the literature or in the field that should be considered by rehabilitation professionals interested in selecting a measure for use or for those interested in furthering the development of assessment methods in rehabilitation. Rehabilitation professionals themselves must pass judgment on the appropriateness and value of a given instrument for their needs.

Instrument Summaries

For each of the 40 measures included in this monograph, a summary of that measure is presented. The summary is a brief account of the measure's charac-

teristics and is designed to give the reader an idea of the measure so that the reader can determine whether it might meet his/her needs. In most cases a sample of the instrument items or the instrument itself is included to illustrate further the nature of the measure.

Development

Draft summaries of the selected measures were prepared from the journal articles and materials on hand at the UM-RRI. The summary was intended as a discussion of various points about the measure that would be important to potential users, i.e., coverage, administration and scoring procedures, evidence of reliability and validity, advantages and limitations, etc. The drafts were then sent to developers of the instruments to confirm the accuracy of the summaries and to fill in any gaps in the information. The summaries were then finalized.

Components

Each of the summaries presented in this monograph contains the following elements:

1. Developer(s) - including a date associated with the measure's development
2. Purpose
3. Description - including the areas assessed and the type of items used
4. Use - including proposed uses, target populations, and settings for use
5. Administration
6. Scoring
7. Reliability
8. Validity

→ including, when available, a description of the type of reliability or validity examined and the population on which the data were gathered. Statements regarding the quality of the reliability and validity were based on information obtained from the developers and/or literature; they are not the judgments of the UM-RRI.

9. Advantages
10. Limitations

→ coming primarily from the developers and the literature

11. References
12. Availability

and in most cases,

13. Sample items or the instrument itself -- presented for illustration purposes only

NOTE: Pages in this monograph containing actual items from instruments are identified with ~~~~~ across the top of the page.

Organization of the Monograph

The 40 selected measures have been classified according to the five content categories discussed earlier in the Selection Process section and their summaries are presented in the monograph accordingly:

1. Measures of employability
2. Measures of independent living skills
3. Measures of client perceptions
4. Measures of client satisfaction
5. Miscellaneous measures

Withing each category the instrument summaries appear in alphabetical order by instrument title. Indices are also presented by instrument title and by developers' names and affiliation in order to facilitate the location of the instrument summaries in the monograph.

Caution

As mentioned above, the instrument summary is intended to give the reader an idea of what the instrument is like and whether it might meet his/her needs. It is not an exhaustive discussion of the measure. To obtain a more complete understanding of a particular instrument, interested persons may consult the

references cited, obtain the actual instrument, and/or contact the developer(s) directly.

Additional Background

In order to evaluate the information presented in the summaries in the proper light, the reader may be interested in obtaining additional background information on client outcome measurement and technical measurement considerations. The reader is referred to the reference list below for additional information in these areas.

Selected References

Client Outcome Measurement in Rehabilitation

Backer, T. E. New directions in rehabilitation outcome measurement. In E. L. Pan, T. E. Backer & C. L. Vash (Eds.), Annual Review of Rehabilitation, Vol. I. New York: Springer Publishing Company, 1980.

Bassett, P.T. Measurement of outcomes: A report from the study group on measurement of outcomes. First Institute on Rehabilitation Issues, Denver, Colorado, April 15-17, 1974. Institute, West Virginia: Research and Training Center, 1974.

Bolton, B. & Cook, D. W. (Eds.). Rehabilitation client assessment. Baltimore: University Park Press, 1980.

Esser, T. J. Client rating instruments for use in vocational rehabilitation agencies. Menomonie, Wisconsin: Materials Development Center, University of Wisconsin - Stout, 1975.

Indices, Inc. Functional limitations: A state-of-the-art review. Falls Church, Virginia: Author, 1978.

Swirsky, J. & Vandergoot, D. A handbook of placement assessment resources. Albertson, New York: Human Resources Center, 1980.

Technical Measurement Considerations

Bolton, B. (Ed.). Handbook of measurement and evaluation in rehabilitation. Baltimore: University Park Press, 1976.

Bolton, B. Rehabilitation counseling research. Baltimore: University Park Press, 1979.

Cronbach, L. J. Essentials of psychological testing (3rd ed.). New York: Harper & Row, 1980.

Cronbach, L. J. Test validation. In R. L. Thorndike (Ed.), Educational measurement (2nd ed.). Washington, DC: American Council on Education, 1971.

Guilford, J. P. Fundamental statistics in psychology and education (4th ed.). New York: McGraw-Hill, 1965.

Nunnally, J. Psychometric theory. New York: McGraw-Hill, 1970.

Stanley, J. C. Reliability. In R. L. Thorndike (Ed.), Educational measurement (2nd ed.). Washington, DC: American Council on Education, 1971.

MEASURES OF EMPLOYABILITY

ARKANSAS FACILITY OUTCOME MEASURE

Developer(s)

This measure was adapted by the Arkansas Rehabilitation Services from the Client Outcome Measure, also used by the Arkansas Rehabilitation Services. The Client Outcome Measure was adapted from the Service Outcome Measurement Form, originally developed by the Oklahoma Department of Rehabilitation and Visual Services.

Purpose

This measure is designed to assess client change as a result of participation in rehabilitation facility services.

Description

The measure consists of 22 items, which are behaviorally anchored on five-point scales. There are three subscales: vocational maturity, vocational functioning, and interpersonal maturity. Each subscale contains six to ten items.

Use

The scale can be used with all clients in rehabilitation facilities except alcohol programs (see below regarding an outcome measure for use in alcohol programs).

The measure is a means of documenting evidence of client gains and losses while receiving facility services. It has been used as an established format for formal written reports, as a report completed by evaluators and instructors, for compiling a composite report to the state office, and as an additional report to the field counselor working with a client upon completion of the client's facility program. It also has potential for use in planning at the state and local level based on identified strengths and weaknesses in facility programs.

Variations of the measure have been used to assess outcome in a number of other programs in the Arkansas Department of Social and Rehabilitative Services: the Rehabilitation Services Field Client Outcome Measure, the Rehabilitation Services for the Blind Social Services Outcome Measure, and an outcome measure for an alcohol program.

Administration

The scale requires professional judgment about the client's adjustment. The information required on the form should be readily available to facility personnel through daily communication and observation of the client. It is administered within a week of the client's admission to the facility and immediately prior to the client's discharge. It can also be administered at intermediate points. The assessment of one client takes about five minutes to complete.

Scoring

A score is obtained for each subscale by summing the ratings for the items comprising the respective subscales.

Reliability

Reliability studies were conducted at a rehabilitation facility serving the mentally retarded. The raters were three counselors, a counselor aide, and an evaluator. All were given instruction in the use of the measure and were familiar with it. Each client was rated by three raters at three points in time: within a week of the client's admission (N = 50); immediately following the client's first staffing, approximately six weeks after admission (N = 44); and immediately prior to the client's discharge (N = 26). Therefore, three interrater reliability estimates were calculated for each subscale. Reliability estimates were low at admission and six weeks later (.49 to .54) and higher at discharge (.79 to .80). The low initial estimates make it impossible to assess gain reliability. These results indicate that the interrater reliability of the rating procedure needs improvement.

Internal consistency and item subscale correlations were also calculated. Internal consistency coefficients were generally high (the coefficient alphas based on all observations by all raters at all times were .89, Vocational Functioning; .86, Vocational Maturity; and .88, Interpersonal Maturity). The correlations of the component items with the corresponding subscale were also high (.70 to .82, Vocational Functioning; .72 to .87, Vocational Maturity; and .54 to .81, Interpersonal Maturity). The three subscales were also highly correlated (.85 to .86).

Validity

No evidence of validity was presented in the materials reviewed.

Advantages

This measure provides pre- and post-measures of the client and has potential as a means of monitoring client progress. Also, administration of the measure does not take long.

Limitations

Interrater reliability needs to be improved and evidence of validity presented.

References

Bolton, B. Client and counselor perspectives in the assessment of client adjustment. Rehabilitation Counseling Bulletin, June 1978 21 (4), 282-288.

Cooper, P. G. The assessment of rehabilitation facility service in Arkansas. Fayetteville, Arkansas: Arkansas Rehabilitation Research and Training Center, 1976.

Kemp, G. Progress report on client outcome measures in facility programs. Little Rock, Arkansas: Department of Social and Rehabilitative Services, State of Arkansas, 1974.

Availability A limited number of the Facility and Field Client Outcome Measures are available from ---

Program Planning and Evaluation
Department of Human Services Rehabilitation Services
1401 Brookwood Drive
P.O. Box 3781
Little Rock, Arkansas 72203

SAMPLE ITEMS

ARKANSAS FACILITY OUTCOME MEASURE

I. Vocational Maturity

____ A. Teamwork
1. Is unable to work effectively with any others.
2. Can work with only one or two others whom are particularly liked.
3. Can usually work with a few others without conflict.
4. Works effectively in small (2-3) groups.
5. Is a good team worker in any group.

____ B. Work Endurance
1. Leaves work station frequently and gives up easily on job assignments.
2. Works borderline minimum time on job assignments.
3. Usually works on job assignments for acceptable length of time but occasionally does not finish work or leaves work station.
4. Works on job assignments for acceptable lengths of time without interruption.
5. Exceeds work requirements for time spent on job assignments. Works until assignment is completed.

____ C. Work Attitude
1. Rebellious - refuses altogether to do assigned tasks.
2. Indifferent - will do assigned tasks reluctantly.
3. Acceptable - shows signs of interest and will perform assigned tasks.
4. Appropriate - approach is positive and well motivated toward task.
5. Exceptional - approach is strongly positive and considerably higher than normally expected.

II. Vocational Functioning

____ C. Safety Habits
1. Does not recognize, or disregards safety habits.
2. Sometimes practices appropriate safety habits.
3. Understands and generally follows most safety procedures.
4. Accepts, understands, and follows instructions relating to safety processes.
5. Observant in recognizing danger and assists others to follow safety procedures in all circumstances.

____ D. Client's Communication in Work Setting
1. Communicates with great difficulty.
2. Minimal level of communication.
3. Communication generally acceptable for the most part.
4. Communicates clearly and with understanding.
5. Exceptionally clear, has ability to communicate at different levels.

III. Interpersonal Maturity

____ A. Participation in Group Social Activities
1. Lack of participation in social activities or participates to such a degree that it becomes disruptive.
2. Generally isolates self from social activities.
3. Passive participant - mainly a listener but remains part of the social group.

A. Participation in Group Social Activities (cont.)
   4. Active participant in social activities.
   5. Accepted as a leader and is center of social activities.

____ B. Extent Client Seeks Assistance
   1. Constantly demands help and attention when unnecessary.
   2. Continues working instead of asking for assistance when unsure if the job is being done correctly.
   3. Occasionally needs help and asks for it.
   4. Generally handles own problems.
   5. Rarely seeks assistance, shows exceptional insight into solving problems.

____ I. Realism of Job Goals
   1. Does not have plans for a job and has not considered any.
   2. Considers job plans but are unrealistic and not compatible with abilities.
   3. Has begun to think about possible occupations that are within capabilities.
   4. Accepts guidance in planning for future jobs, realizing limitations.
   5. Has developed realistic job goals and seeks counsel in planning.

____ J. Confidence in Self as a Worker
   1. Does not see self as being able to hold a job.
   2. Excessively timid or shows unimpressive over-confidence.
   3. Feels capable of being an adequate employee.
   4. Feels capable of being a good employee.
   5. Highly favorable, client's self-confidence inspires confidence from others.

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BEHAVIOR CHECKLIST

Developer(s)	The Behavior Checklist was developed for use at the Kansas Vocational Rehabilitation Center as part of an assessment package for evaluating clients at that state facility. The latest revisions were made in 1981.
Purpose	This measure is designed to assess clients in facilities on selected work behaviors.
Description	This measure consists of 19 items addressing important work behaviors, including dependability, supervision, acceptance of task, steadiness of work, communication, confidence, interaction with other clients, and hygiene. Many items are multi-point scales with three to five rating choices and additional fill-in space for further information. Additional open-ended items complete the measure.
Use	The measure is designed for use with clients in rehabilitation facilities. Results can provide a one-time assessment of the client's work behaviors, or time interval evidence of progress or lack of progress in a work setting.
Administration	The Behavior Checklist is completed by a facility staff person who is familiar (through frequent direct observation for 5-10 days) with the client's behavior "on-the-job." The measure should be administered after the completion of a 1-2 week short-term program in a facility or at intervals of 2-4 weeks if the client is in a longer term program. The actual rating takes about 10-15 minutes to complete.
Scoring	A scoring system is still being developed for the Behavior Checklist. It is a hand-scorable instrument.
Reliability	Reliability studies have not yet been conducted.
Validity	Validity studies have not yet been conducted.
Advantages	First, the measure provides a large amount of information on work behaviors with minimum staff time necessary for write-up. Second, the same behaviors are rated on all clients. Third, space is provided for further comment and clarification of the rated behaviors.
Limitations	There is no formalized scoring system presently available with evidence of reliability and validity. Also, rater variability is a problem.
References	Kansas Vocational Rehabilitation Center. Behavior checklist Salina, Kansas: Author, 1981.

Availability Single copies can be obtained by writing to ---

Chief Evaluator
Kansas Vocational Rehabilitation Center
3140 Centennial Road
Salina, KS 67401

SAMPLE ITEMS

BEHAVIOR CHECKLIST

Client Name: _____ Completed by: _____

(1) Dependability:
- (a) Punctuality (in reporting in morning and from breaks):
  Number of times late _____ Number unexcused _____
- (b) Attendance
  Total days absent _____ Number unexcused _____

Comments _____
_____
_____
_____

(2) Extra breaks from work
- _____ (a) Client did not take extra breaks
- _____ (b) Client occasionally left the shop other than at break time:
  Average times per day _____ Average time gone _____
- _____ (c) Client took frequent breaks:
  Average times per day _____ Average time gone _____

(3) Amount of supervision required after task was started
- _____ (a) Client needed <u>almost no</u> assistance and was able to go ahead at his/her own pace
- _____ (b) Client needed occasional assistance/approval and/or prodding to continue on task
- _____ (c) Client needed almost <u>constant</u> support/assistance and/or prodding to start or continue working

(4) Acceptance of supervisor/supervisory role:
- _____ (a) Client was usually comfortable and appropriate in accepting supervision
- _____ (b) Client was anxious with supervisor
- _____ (c) Client occasionally resisted instructions/requests or was inappropriate with supervisor
- _____ (d) Client frequently refused to accept supervisor's instructions/requests (did task own way)

(5) Requests for assistance from evaluator
- _____ (a) Client made appropriate requests for assistance
- _____ (b) Client occasionally did not ask for needed help
- _____ (c) Client occasionally asked unnecessary questions
- _____ (d) Client made many unnecessary requests for help
- _____ (e) Client hardly ever asked for assistance, even though he/she did not understand how to carry out a task

(6) Recognition of mistakes
- _____ (a) Client caught most mistakes and made corrections
- _____ (b) Client made "careless" errors that were not caught
- _____ (c) Client missed even gross errors made (e.g.) _____
- _____ (d) Client recognized own mistakes but
  - _____(i) Became agitated
  - _____(ii) Blamed others or circumstances
  - _____(iii) Other _____

(7) Reaction to correction/suggestions for performance improvement

_____ (a) Client's performance improved after correction/suggestion
_____ (b) Client accepted correction and improved performance, but needed this done in supportive manner
_____ (c) Correction/suggestions did not change client's performance
_____ (d) Client's performance became worse after correction. Explain:_____
_____
_____

(8) Acceptance of task

_____ (a) Client willingly worked on and completed all assigned tasks
_____ (b) Client occasionally complained about tasks
_____ (c) Client was unwilling to work on or complete assigned task on occasion (one or two times)
_____ (d) Client continually complained and/or refused to work on assigned tasks (e.g.) _____

(9) Steadiness of work/distractability

_____ (a) Client was not distracted from assigned task
_____ (b) Client was occasionally distracted from work by noises or other environmental factors
_____ (c) Client often was not working on assigned tasks
_____ (d) Client easily distracted and/or worked sporadically on tasks

(10) Communication

_____ (a) Client was able to communicate thoughts and ideas effectively
_____ (b) Client had some difficulty in communicating thoughts/ideas, but was able to make them known
_____ (c) Client had communication habit that could present problems on a job. Specify _____

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CLIENT HANDICAP CHECKLIST (CHC)

Developer(s)

The CHC was developed by the University of Wisconsin Regional Rehabilitation Research Institute (UW-RRRI) in 1973 as part of the Concentrated Assessment and Diagnosis in Rehabilitation Entrance (CADRE) Project, a program evaluation effort conducted by the UW-RRRI, the Wisconsin Division of Vocational Rehabilitation, and the Waukesha, Wisconsin, DVR district office.

Purpose

The CHC is an instrument used to assess client functioning.

Description

The CHC contains 21 items, each item consisting of a five-point rating scale assessing the degree of handicap that exists. Four distinct areas of client functioning and potential vocationally handicapping conditions are investigated: attitude and personality handicaps, vocational maturity handicaps, job-seeking handicaps, and related vocational handicaps.

Use

The CHC was designed for use with all clients seeking services from the state-federal vocational rehabilitation program. It is useful to both case managers and program managers. Initial assessment helps case managers and clients in identifying vocational handicaps, which is an essential step in establishing realistic vocational goals and developing relevant rehabilitation plans. It helps to insure a systematic concern for a variety of vocationally handicapping conditions. Intermediate evaluations prove useful in assessing the client's progress and the effectiveness of the program. Evaluation at closure is beneficial in providing an indication of client change as a result of participating in the program and thus a measure of the impact of the program, and in helping to determine placement suitability and program effectiveness.

Administration

The instrument is intended to be administered by the rehabilitation counselor and relies on professional judgment. It has been administered at different times throughout the VR process (e.g., initiation of services, after provision of services, and at closure). It is also recommended for use during follow-up. A brief training session in the CHC's use and strict adherence to the instructions are recommended to help insure the adequate reliability of the information. Information is generated by interviewing the client and reviewing case records. Once the rehabilitation counselor has the diagnostic evaluation information available, the instrument can be completed in approximately 5-10 minutes.

Scoring

The CHC is not a unidimensional measure. Thus, no single score is yielded. It is simply a summary of the degree to which certain functional limitations are handicapping.

Reliability — There is no statistical evidence for the measure's reliability. However, a brief training session in its use for those who will be using it is recommended to help insure adequate reliability.

Validity — There is no statistical evidence for the measure's validity. However, content and construct validity are supported by the fact that the measure was developed by experts in rehabilitation with input from practicing rehabilitation counselors.

Advantages — Some advantages of the instrument include the following: Areas investigated are broad enough to assess relevant aspects of the rehabilitation process (i.e., numerous conditions or situations which may encourage or discourage rehabilitation efforts); and it is contained enough to allow rehabilitation counselors to be able to complete it in a minimal amount of time.

Limitations — A major disadvantage is the assessment of rather ambiguous characteristics (e.g., motivation for rehabilitation services relies heavily on counselor judgment).

References

CADRE Project. CADRE project client handicap checklist and administrative instructions. Madison, Wisconsin: University of Wisconsin Regional Rehabilitation Research Institute, 1975.

Crystal, R. M., Growick, B. S., & Rayford, C. J. Concentrated assessment and diagnosis in rehabilitation entrance. Journal of Rehabilitation, 1980, 46 (3), 33-35.

Crystal, R. M., Growick, B. S., & Rayford, C. J. Concentrated assessment and diagnosis in rehabilitation entrance: Research report. Madison, Wisconsin: University of Wisconsin Regional Rehabilitation Research Institute, 1977.

Availability — Single copies of the CHC can be obtained from ---

Ralph M. Crystal, Director
Graduate Program in Rehabilitation Counseling
University of Kentucky
124 Taylor Education Building
Lexington, Ky 40506

SAMPLE ITEMS

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CLIENT HANDICAP CHECKLIST

Client Handicap Categories (see CADRE Project Manual for Definitions)	Degree of Handicap
	0 = No information available 1 = Not a problem 2 = Mild 3 = Moderate 4 = Severe

	Circle Desired Response				
1. Attitude and Personality Handicaps a) Perception of self	0	1	2	3	4
2. Vocational Maturity Handicaps a) Establishment of realistic vocational goals	0	1	2	3	4
3. Job Seeking Skills b) Realistic knowledge of job requirements	0	1	2	3	4
4. Related Vocational Handicaps a) Transportation	0	1	2	3	4

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EMPLOYER QUESTIONNAIRE OF THE WEST VIRGINIA FOLLOW-UP KIT

Developer(s)

The Employer Questionnaire was developed at the West Virginia Rehabilitation Research and Training Center in 1974.

Purpose

The Employer Questionnaire is a follow-up instrument designed to assess employer/supervisor satisfaction with employees (former rehabilitation clients).

Description

The instrument has two subscales and a total of 21 forced choice items. All items of the Employer Questionnaire are identical or similar to items in the Employee Questionnaire. The first subscale, the Tseng Work Personality Subscale (items 3-13, and items 16-26 of the Employee Questionnaire), is a summative rating scale which yields a global measure of the employer/supervisor's assessment of the employee's personal qualities in the work situation. The following attributes are assessed: ability to work with others, punctuality, cooperativeness, self-reliance, appearance, courtesy, motivation, reliability, work tolerance, initiative, and attitude towards job.

The Tseng Work Proficiency Subscale (items 14-19, and items 16-26 of the Employee Questionnaire) is a summative rating scale which provides a measure of the employer/supervisor's assessment of the employee's work proficiency. Work proficiency is assessed along the following attributes: job knowledge, job skills, quality of work, care and operation of equipment, observance of safety practices, and compliance with work rules.

Additional items on the client's job title, number of hours worked per week, overall performance, and the importance of rehabilitation services on employee performance make up the rest of the questionnaire.

The majority of the items are multi-point ratings (e.g., agree/disagree) on a five-point scale wherein 1 represents the lowest rating and 5 represents the highest.

Use

The instrument is appropriate for employers of all former rehabilitation clients, and it was developed for use in the state-federal rehabilitation system. The Employer Questionnaire is beneficial to both case managers and program managers. Information can be generated on the types of businesses hiring former rehabilitation clients, job classifications of those hired, and the employer's assessment of employees' work personality and work proficiency. This can be used to document the success of rehabilitation programs. These data are also beneficial in planning and managing services.

Administration

The Employer Questionnaire is a self-report instrument which is administered after closure. It is recommended that the administration occur at least one year after the client/employee's

case is closed so as to obtain a measure of the lasting impact of rehabilitation services. The instrument is mailed to employers and they are instructed to complete and return them. The instrument can be completed in approximately 15 minutes.

Scoring

The Employer Questionnaire data can be compiled in two ways: one for computer analysis and the other for hand or machine calculation. Either method uses the computations of totals, frequencies, averages, percents, and standard deviation. (Forms for compiling the data can be made from the sample for use with the Employee Questionnaire that is included in the Follow-up Kit.) If computer services are available, correlational analysis, t-tests, and analysis of variance may be used to strengthen evaluation reports.

Composite scores for work personality and work proficiency are obtained by counting and then averaging all attributes associated with the particular factor. Then by adding the averages for the attributes, a composite score is derived. This permits comparisons of employer assessments and employee assessments (using the Employee Questionnaire also included in the Follow-up Kit), as well as comparisons of employer assessments differentiated by various factors (e.g., type of business, closure status of clients, disability classification of clients, etc.).

Reliability

Reliability data are available for the two subscales:

The Tseng Work Personality Subscale (items 3-13 on the Employer Questionnaire) has the split half reliability with the Spearman-Brown correction of .94 (N = 114). The Tseng Work Proficiency Subscale (items 14-19 on the Employer Questionnaire) has the split-half reliability with the Spearman-Brown correction of .94 (N = 114). The combined Tseng scales have the split-half reliability corrected by the Spearman-Brown formula of .95 (N = 114).

The internal consistency of the Tseng Work Personality Subscale, as measured by Cronbach's alpha, is .91 (N = 114). The internal consistency of the Tseng Work Proficiency Subscale, as measured by Cronbach's alpha, is .89 (N = 114). The combined Tseng scales have the internal consistency, as measured by Cronbach's alpha, of .94 (N = 114)

Validity

Evidence of validity is not available.

Advantages

Some of the advantages of the instrument include the following: It is self-administered; it taps employer satisfaction, the most important factor in job maintenance; comparisons of employee and employer perceptions can be accomplished.

Limitations

A major limitation is that since no pre-measure is possible, it is more difficult to view the client/employee performance as the result of rehabilitation services. Also, evidence of validity needs to be compiled.

References

Greever, K.B., Minton, E. B., & Tseng, M. S. Follow-up study of rehabilitation clients - a step-by-step guide. Institute, West Virginia: Research and Training Center, 1974.

Availability

The West Virginia Follow-up Kit, including the Employer Questionnaire and the Employee Questionnaire, can be obtained from ---

Publications Department
West Virginia Rehabilitation
Research and Training Center
One Dunbar Plaza, Suite E
Dunbar, WV 25064

In addition to the questionnaires mentioned above, the Follow-up Kit contains information on planning and conducting a follow-up study, sampling, analyzing the data, and writing the report.

SAMPLE ITEMS

EMPLOYER QUESTIONNAIRE

Items 3 through 21 are statements about this employee and his (or her) performance. Please read each staement carefully and circle ONE of the provided answers which indicates how much you agree or disagree with the item.

3. The employee does not have trouble with his/her co-workers.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

4. The employee comes to work on time and returns from breaks on time.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

5. The employee gets along well with the supervisor.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

6. The employee get work done without being told by the supervisor.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

7. The employee tries to look his/her best when he/she is doing his/her job.

   1. Strongly agree
   2. Agree
   3. Uncertain
   4. Disagree
   5. Strongly disagree

14. The employee's knowledge about his/her job is

   1. Very good
   2. Good
   3. Fair
   4. Poor
   5. Very poor

15. The employee's work skill in the trade is

1. Very good
2. Good
3. Fair
4. Poor
5. Very Poor

16. The quality of the employee's work is

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

17. The employee's operation and care of equipment are

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

21. The employees training through Vocational Rehabilitation is important to his/her job performance.

1. Strongly agree
2. Agree
3. Uncertain
4. Disagree
5. Strongly disagree

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FUNCTIONAL ASSESSMENT INVENTORY (FAI)

Developer(s)

The FAI was developed by Nancy M. Crewe and Gary T. Athelstan at the University of Minnesota's Department of Physical Medicine and Rehabilitation and copyrighted in 1980.

Purpose

The FAI provides an assessment of an individual's capacity for work or other productive activity. It is intended to organize and focus work-related information rather than generate new data about the client. Therefore, it will draw upon and not replace interviewing, psychometric testing, and work evaluation.

Description

The FAI consists of 42 items (i.e., 30 four-point functional limitation items, a 10-item checklist of assets or unusual strengths, one scale of the counselor's assessment of severity of disability, and one scale of the counselor's prediction of employability). Areas investigated included the following: sensory, motor, psychological, intellectual, social, biographical, and environmental. The 30 four-point functional limitation items are behaviorally anchored and selected for their vocational relevance. Each item ranges from zero to three, representing no impairment, mild, moderate, and severe impairment, respectively. The presence of any of the 10 strength items (e.g., verbal fluency) is seen as a moderator variable that may mitigate the impact of functional limitations on the employment potential of disabled individuals. The severity of disability scale is a seven-point rating scale ranging from 1, minimally disabled, to 7, very severely disabled. The employability scale (i.e., vocational potential) is a four-point rating scale ranging from 1, poor chance of client ever working, to 4, excellent chance of client working. The items take into account the environment in which the client must function as well as characteristics of the particular individual.

Use

The FAI seems appropriate for all clients and particularly for severely handicapped clients. It would be useful in state-federal VRS, rehabilitation facilities, and other settings.

The FAI will be beneficial to various professionals in the rehabilitation field. Case managers will be able to use the FAI to identify strengths and limitations of their clients in order to ensure that all relevant problems are considered prior to selection of a vocational choice and that potential disruptive barriers are given special attention in the placement process. Program managers and researchers will be able to use the FAI to provide an objective basis for definition of severe disability and enable classification of clients according to degrees of severity for program evaluation and research purposes.

The FAI may also be useful in assessing functional limitations as an aid in training experienced counselors to work with severely disabled clients. The inventory seems useful in enabling students and new counselors to identify specific components and to find a starting point for counselor intervention.

Administration

Administration of the FAI requires professional judgment. The evaluator would need to consider various sources of information (e.g., client report, observation, work evaluation, physiological/psychological evaluations, etc.) in making this judgment. Space is provided for checking those limitations that could be reduced through the provision of rehabilitation services. The assessment would be appropriate soon after the client is admitted to service in an effort to make realistic and complete plans. It could also be used during termination of service to make more suitable placements. The time required to complete the FAI is approximately 5-10 minutes.

Scoring

A total Functional Limitation (FL) score can be determined by simply adding the raw ratings for each item. Similarly, scale scores can be obtained by adding the ratings on all of the items within a given scale. The instrument can be scored by hand.

Reliability

The FAI was subjected to testing of interrater reliability. An initial series of interviews was observed by varying pairs of counseling psychologists, and the FAI was completed by each observer. Agreement between raters was checked and discrepancies examined. Coding conventions were revised as necessary. Next, a series of 25 interviews was observed and rated by pairs of psychologists, but the ratings were not discussed. This series showed that 75% of the ratings made by the pairs of observers were identical. Only 3% of the ratings differed by more than one point on a four-point scale. As a result of this work, several items were revised and one item was added. A third series of 12 clients was then rated with similar results. Therefore, the reliability of the instrument was judged to be satisfactory.

Validity

Over a nine-month period counselors completed the FAI on new clients (N = 351) as they were accepted for services. Subjects were divided into eight groups according to their primary disability and frequency distributions were drawn for each item. Factor analysis of the Functional Limitation (FL) items was carried out to provide a basis for identifying underlying scales. The procedure was completed first on the total sample of 351 subjects and then repeated separately for 173 clients with a primary diagnosis of physical disability and then for the 152 with a primary diagnosis of behavioral disability. The strength items were omitted from factor analysis since they were not scaled in the same way as the FL items. The distribution of responses for each FL item reveals

logical differences in ratings between disability groups.

Concurrent and predictive validity are being developed for the FAI. Concurrent validity is reflected in the correlations between counselor assessment of severity of disability and employability and the total FL score and number of strengths. Pearson correlations between each of these counselor ratings and total FL item scores and total strength scores were calculated for the total group of 351 subjects mentioned above as well as for the subgroups of physical (N = 173) and behavioral (N = 152) disabilities. For all subjects the correlation between total FL scores and Prediction of Employability was -.61. The correlation between total FL scores and Severity of Disability was .60. Among physically disabled clients the correlations between the total FL scores and the two ratings were -.60 and .60, respectively. Among behaviorally disabled clients the correlations were -.64 and .60, respectively. All of the correlations were statistically significant at the .001 level of probability.

The correlations between total strength item scores and the two counselor ratings were somewhat lower but still statistically significant. They were, of course, in the opposite direction of the correlations with the total FL scores. For all subjects the correlation between the total strength score and Employability was .53, and with Severity of Disability it was -.21. For physically disabled subjects the correlations were .52 and -.30, respectively.

Pearson correlations between the two global ratings of Prediction of Employability and Severity of Disability were also calculated for all 351 subjects and for the subgroups of physical and behavioral disabilities. For the total group correlation was -.51. For clients with physical disabilities the rating of Prediction of Employability correlated -.56 with the rating of Severity of Disability. For clients with behavioral diagnoses the correlation between the two ratings was -.52. These correlations were all statistically significant at the .001 level of probability.

Predictive validity is based on the relationship between FL scores and strength scores and actual vocational outcome. However, this part of the validation process will not be completed until all of the follow-up data have been obtained through the central files of the Minnesota DVR office.

Expanded field testing is now underway in other states, and norms are being developed.

Advantages

The FAI is brief, yet comprehensive. It provides a basis for structuring the initial interview and making a vocational diagnosis. When the FAI is used with the Personal Capacities Questionnaire (discussed below), counselor and client perceptions of functional capacities can be compared.

The Personal Capacities Questionnaire (PCQ) is an item-by-item translation of the FAI that is designed to be completed by clients themselves rather than by counselors. The advantage of the PCQ is that it provides counselors with direct information about how the client sees his/her limitations and strengths in 40 work-related areas. This could provide information about problems that would otherwise have been overlooked.

Field tests of the PCQ used jointly with the FAI are being planned. The relationship between PCQ scores and rehabilitation outcomes will be examined and norms established. Scales will also be identified, and the correlations between the FAI and PCQ calculated. Until then the information obtained from the PCQ can be used as information gathered through the interviewing process would.

Both the FAI and the PCQ are available in braille and large-print editions.

Limitations

Normative and validation data on the FAI are not yet complete.

References

Crewe, N. M. & Athelstan, G. T. The functional assessment inventory: Field-test results and further development. Unpublished manuscript. (Available from the first author).

Crewe, N. M., Athelstan, G. T., and Meadows, G. K. Vocational diagnosis through assessment of functional limitations. Archives of Physical Medicine and Rehabilitation, 1975, 56, 513-516.

Availability

Copies of the FAI, the PCQ, and other pertinent information can be obtained from ---

Nancy M. Crewe, Ph.D.
Dept. of Physical Medicine and Rehabilitation
860 Mayo Memorial Building, Box 297
University of Minnesota Hospitals
420 Delaware St., SE
Minneapolis, MN 55455

SAMPLE ITEMS

FUNCTIONAL ASSESSMENT INVENTORY

1. Vision (See Instructions.)
   0. No significant impairment.
   1. Has difficulty handling work involving fine visual detail.
   2. Impairment is sufficient to interfere with major activities such as driving or reading.
   3. Total or nearly total loss of vision.

2. Hearing (See Instructions.)
   0. No significant impairment.
   1. Has some difficulty understanding conversation or using a telephone.
   2. Can handle face-to-face conversation with the help of lipreading, but is unable to use a telephone. Is unable to pick up certain environmentally relevant sounds (e.g., bells or high-pitched tones).
   3. Extremely hard-of-hearing or deaf; or is unable to comprehend any speech.

3. Ambulation or Mobility (See Instructions.)
   0. No significant impairment.
   1. Mild impairment, but does not require assistance from others to get around in the community.
   2. Moderate impairment. Sometimes requires help from others in order to get around in the community.
   3. Severe impairment. Usually requires assistance from others in order to get around in the community.

18. Judgment
   0. No significant impairment.
   1. Sometimes makes unsound decisions. Does not take time to consider alternatives or consequences of behavior.
   2. Frequently makes rash or unwise decisions. Often displays inappropriate behavior or choices.
   3. Could be dangerous to self or others as a result of foolish or impulsive behavior.

21. Accurate Perception of Capabilities and Limitations
   0. No significant impairment.
   1. Behavior with respect to rehabilitation goals appears inconsistent (i.e., it varies from day to day or from one area to another).
   2. Has an unrealistic understanding of his or her vocational capacities (e.g., may rule out all vocational possibilities or deny important limitations).
   3. Refuses to accept or significantly distorts his or her limitations. Frequently gives others false, misleading, or extremely inappropriate information about the disability.

22. Effective Interaction with People
   0. No significant impairment.
   1. Is somewhat awkward or unpleasant in social interactions.
   2. Lacks many of the skills necessary for effective social interaction.
   3. Overtly aggressive, withdrawn, defensive, bizarre, or inappropriate behavior often impairs personal interactions.

26. Work Habits
    0. No significant impairment.
    1. Is deficient in work habits (e.g., punctuality, proper appearance, or appropriate interview behavior). However, is willing and able to learn these skills quite readily.
    2. Work habit deficiencies may require that work adjustment training precede employment.
    3. Has severe deficiencies in work habits and seems to have little potential for improving through work adjustment training.

Strength Items (Check all that apply.)

31. Has an unusually attractive physical appearance.

32. Has an exceptionally pleasing personality.

33. Is extremely bright, or has an exceptional verbal fluency.

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MDC BEHAVIOR IDENTIFICATION FORMAT (FORM)

Developer(s)

The Form was developed at the Materials Development Center (MDC) of the Department of Rehabilitation and Manpower Services at the University of Wisconsin - Stout and published in 1974.

Purpose

The Form was developed to aid in observing, identifying, and recording work and work-related behaviors which increase or decrease employment opportunities.

Description

The Form is oriented toward the evaluation of 22 work-related behaviors. Additional behaviors can be specified for evaluation. Some of the work behaviors rated include appropriateness of behavior; communication skills related to work; attendance; punctuality; stamina or eight-hour work capacity; hygiene, grooming, and dress; and social skills relating to co-workers, etc.

The rating system consists of a series of judgments which are made regarding the client's employment behavior. While the ratings are not intended to yield a total score or scale scores, the ratings do reflect the rater's judgment of the appropriateness of the particular client's work behavior in relationship to his or her job goals.

Use

The Form seems appropriate for all clients experiencing vocational handicaps, especially those involved in or being considered for participation in work adjustment and/or treatment programs. It is also applicable in the sheltered workshop setting.

The Form is beneficial to various rehabilitation practitioners. It can be used by case managers when making decisions about training that is appropriate to the client's needs and goals and/or in making decisions about placement. Since the Form assesses client change, it may provide case managers and program managers an indication of the impact of particular programs or services. It is useful to sheltered workshop supervisors and work adjustment personnel in providing specificity and structure in work adjustment training and in assessing client change. The Form's flexibility is increased in that additional behavior items can be developed and assessed as needed.

Administration

Completion of the Form requires observation of the client and professional judgment. Staff using the instrument must learn to observe, record, and report specific objective behavior accurately and use consistent terminology. The instrument can be administered as needed (e.g., within days after a client begins a work adjustment program, midway through the program, and again at the end of the program). The measure may be used over a period of time in order to obtain an assessment of a client.

Scoring — Three major classifications are used to rate the client's work-related behavior: "A" - acceptable, "B" - selective placement necessary, and "C" - change needed. Each of these classifications can be subdivided into two ratings which are more precise: A, (1) strength or (2) no problem; B, (1) problem - placement or (2) change to upgrade placement; C, (1) change possible or (2) change doubtful. Definitions for each of these classifications are provided.

Ratings can be made of the client at different times using the major classifications (i.e., "A", "B", "C" or the more precise ratings, i.e., A-1, A-2, B-1, etc.). Changes in repeated ratings suggest changes in the client's behavior and provide the rationale for decisions regarding changes in service delivery, placement, etc. The instrument is hand scorable.

Reliability — The reliability of the Form has not been determined.

Validity — The Form has not been validated.

Advantages — A major advantage of the instrument is its ability to identify specific work behavior problems and consequently permit the planning of individualized objectives for work adjustment services.

Limitations — No evidence for the Form's reliability or validity has been gathered.

References — Materials Development Center, University of Wisconsin - Stout. Recommended procedure: MDC behavior identification format (manual). Menomonie, Wisconsin: Author, 1974.

Availability — Copies of the MDC Behavior Identification Form can be obtained from ---

Materials Development Center
Stout Vocational Rehabilitation Institute
University of Wisconsin - Stout
Menomonie, Wisconsin 54751

MDC BEHAVIOR IDENTIFICATION FORM

Client's Name _____

Client's Job Goals _____

_____

Rater _____

Period Covered _____ to _____

Date of 1st Rating _____ 2nd Rating _____ 3rd Rating _____

Rating Key
A - Acceptable
A-1 Strength
A-2 No Problems
B - Selective Placement
B-1 Problem-Placement
B-2 Change to Upgrade
C - Change Needed
C-1 Change Possible
C-2 Change Doubtful

Category	Behavior	Rating
1. Hygiene, Grooming and Dress		
2. Irritating Habits		
3. Odd or Inappropriate Behaviors		
4. Communication Skills as Related to Work Needs		
5. Attendance		
6. Punctuality		
7. Ability to Cope with Work Problems (Frustration Tolerance)		
8. Personal Complaints		
9. Vitality of Work Energy		
10. Stamina or 8-Hour Work Capacity		

11. Steadiness or Consistency of Work	
12. Distractability	
13. Conformity to Shop Rules and Safety Practices	
14. Reactions to Change in Work Assignment	
15. Reactions to Unpleasant or Monotonous Tasks	
16. Social Skills in Relations with Co-workers	
17. Amount of Supervision Required After Initial Instruction Period	
18. Recognition - Acceptance of Supervisory Authority	
19. Amount of Tension Aroused by Close Supervision	
20. Requests for Assistance from Supervisor	
21. Reactions to Criticism and Pressure from Supervisors	
22. Work Method and Organization of Tools and Materials	

COMMENTS:

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MINNESOTA SATISFACTORINESS SCALES (MSS)

Developer(s)

The MSS were developed by Dennis L. Gibson, David J. Weiss, Rene V. Dawis, and Lloyd H. Lofquist at the University of Minnesota and copyrighted in 1970. They were copyrighted in 1977 by Vocational Psychology Research at the University of Minnesota.

Purpose

The MSS are designed to measure the satisfactoriness of an individual as an employee.

Description

The MSS consists of 28 items comprising a total of five scales: performance, conformance, dependability, personal adjustment, and general satisfactoriness. Ratings are made in comparison to co-workers (i.e., better than, about the same as, or not as good as his or her fellow employees).

Use

The MSS are appropriate for use with clients who are working. Follow-up information gathered from the MSS can be used by both counselors and program managers in the planning and monitoring of their efforts. Input can be obtained that could influence a number of areas of intervention. First, feedback on counseling outcomes can be used to improve counseling efforts that have been ineffective in the past. Second, knowledge of the receptivity of different businesses to different types of clients can alter job placement practices. Third, the effectiveness of specific training programs can be studied. Knowing which type of client obtains the greatest level of satisfactoriness in which area can affect both a counselor's and a program's planning efforts for clients.

The MSS can also be used as a counseling tool by counselors. A client sees what work behaviors are important to satisfactory employment. The client is able to gain a more realistic view of himself/herself as comparisons of client and employer perceptions of satisfactoriness are examined and discussed.

Administration

The MSS are designed to be completed by the worker's immediate supervisor but can be completed by a fellow employee or the employee himself/herself. The rater should be familiar with the worker and the other workers with whom the comparison is being made. If there are no others in the job category with whom to compare, the rater should use those who have done the job in the past as reference points. It takes about five minutes to rate someone, and it can be administered by mail.

Scoring

Each item is weighted according to response. A table listing the appropriate weights for each item is provided. Raw scores for each scale are then calculated by summing the weighted scores for each item constituting the scale. A hand-scoring form is provided to facilitate this process.

Raw scores for each scale can be converted to percentiles based on an appropriate norm group. Six norm tables are available: (1) professional, technical, and managerial; (2) clerical and sales (male); (3) clerical and sales (female); (4) service; (5) machine trades and bench work; and (6) workers-in-general. Separate norms were developed for males and females in the clerical and sales area because of significant differences found in the MSS scores for these groups in this area. The workers-in-general group should be used for occupational groups not represented by any of the other norm groups. In general, percentile scores of 75 or higher reflect highly satisfactory ratings on a scale, scores of 25 or below reflect poor satisfactory ratings, and those in the middle reflect average satisfactoriness.

Confidence bands based on the standard error or measurement can be determined for each scale score. Since the scale scores are based on a single rating, confidence bands help insure an accurate interpretation of the scores.

Computer scoring can be arranged through Vocational Psychology Research (see address in the Availability section). Printouts of group results and individual scores can be obtained as well as individual punched data cards. Additional data analyses can also be arranged.

Reliability

The internal consistency of the MSS was determined by calculating Hoyt reliability coefficients for the norm groups. Coefficients ranged from .69 to .95, with a median of .87. These values were generally high and reflected homogeneity of content within each scale.

Test-retest correlations were calculated for a two-year interval on four occupational groups: (1) assemblers, janitors, maintenance workers, machinists; (2) clerks (male); (3) engineers; and (4) salespeople. Those who were still in the same job two years after the first rating were included. It is not known how many of the supervisors making the ratings were the same. Correlations ranged from .40 to .68, with a median of .50.

Validity

Anderson (1969) looked at the relationship of the MSS to job tenure. Among a group of satisfied workers, as identified by the short-form Minnesota Satisfaction Questionnaire, those rated above the median on the performance scale of the MSS were more likely to remain on the job over a two-year period than those below the median, based on chi-square tests significant at the .10 probability level.

Group differences on the MSS were studied by looking at mean scores on each of the five scales for employees in seven occupational groups: (1) assemblers, (2 & 3) clerks (males and female), (4) engineers, (5) janitors and maintenance workers, (6) machinists, and (7) salespeople. One-way

analysis of variance indicated significant differences at well beyond the .01 probability level for all five scales. A significant sex difference occurred for clerks, the only area where there were significant numbers of both sexes. Males rated higher on all scales. The developers feel that this may be due to rating biases.

The developers feel that differences among these groups do not mean that workers in some occupations are more satisfactory than others. Supervisors may rate higher in some occupations than others do. It does point out the importance of using the appropriate norm table for an individual, especially when he/she is changing jobs from one occupational group to another.

Advantages

The MSS only takes five minutes to complete. Consequently, administration by mail is feasible.

Limitations

The norm tables presented represent broad categories of occupations. Care must be given in studying the characteristics of those workers on whom the norms were established in order to determine if the norms adequately represent the occupational groups to which a given client belongs. Also, the measure was developed in the context of the Theory of Work Adjustment (Dawis, Lofquist, & Weiss, 1968) and is most useful in that context.

References

Anderson, L. Longitudinal changes in level of work and adjustment. Unpublished doctoral dissertation, University of Minnesota, 1969.

Dawis, R. V., Lofquist, L. H., & Weiss, D. J. A theory of work adjustment (a revision). Minnesota Studies in Vocational Rehabilitation: XXIII, 1968.

Gibson, D. L., Weiss, D. J., Dawis, R. V., and Lofquist, L. H. Manual for the Minnesota satisfactoriness scales. Minnesota Studies in Vocational Rehabilitation: XXVII, 1970.

Availability

The MSS as well as computer scoring services, can be purchased from ---

Vocational Psychology Research
N620 Elliott Hall
University of Minnesota
75 East River Road
Minneapolis, MN 55455

SAMPLE ITEMS

MINNESOTA SATISFACTORINESS SCALES

Please check the best answer for each question

Be sure to answer all questions

	not as well	about the same	better
Compared to others in his/her work group, how well does the employee . . .			
1. Follow company policies and practices?	☐	☐	☐
2. Accept the direction of his/her supervisor?. .	☐	☐	☐
3. Follow standard work rules and procedures? . .	☐	☐	☐
4. Accept the responsibility of his/her job?. . .	☐	☐	☐
5. Adapt to changes in procedures or methods? . .	☐	☐	☐

	not as good	about the same	better
Compared to others in his/her work group . . .			
12. How good is the quality of his/her work? . . .	☐	☐	☐
13. How good is the quantity of his/her work?. . .	☐	☐	☐

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PRELIMINARY DIAGNOSTIC QUESTIONNAIRE (PDQ)

Developer(s)

The PDQ was developed by Joseph B. Moriarty at the West Virginia Research and Training Center and copyrighted in 1981.

Purpose

The PDQ is designed to provide structure to the diagnostic process in that it provides a quick assessment of client employability (functional limitations and client change) across five factors: physical condition; mental condition; emotional condition; attitude and motivation; and social, economic, and personal condition.

Description

The PDQ is comprised of nine subscales. (1) The Work Information subscale has 17 items in a right-or-wrong format and it is designed to assess the client's general knowledge of the world of work. (2) The Preliminary Estimate of Learning (PEL) has 30 items in a right-or-wrong format and it is used to assess general knowledge associated with intelligence. If recent IQ scores are available, they can be converted to stanine scores and this section omitted. (3) The Psychomotor Skills section has nine items and assesses the level of gross and fine motor skills. (4) The Reading Ability and Comprehension subscale is an 18-item orally administered instrument in a right-or-wrong format. (5) The Work Importance subscale is a 10-item four-point Likert scale that assesses the client's attitude toward work. (6) The Personal Independence section is a 29-item measure of clients' self-reported physical independence. Items are rated on a four-point scale as follows: "0" cannot do it, "1" requires assistance from another person, "2" uses device, and "3" does it him/herself. (7) The Internality subscale is a 15-item four-point Likert scale assessing the degree of externality or internality possessed by the client. (8) The Emotional Functioning subscale is a 22-item self-report instrument designed to identify general psychological pathology, using questions relating to depression, withdrawal, aggression, self-worth, and contact with reality. (9) The Demographic Information section considers six demographic items (e.g., age, sex, marital status, educational level, disability) which are coded and scored providing a rough preliminary estimate of what the chances are for competitive employment of a population similar to the specific client.

Use

The PDQ is designed for all clients able to give informed consent. It is appropriate for use in the state-federal rehabilitation program, sheltered workshops, rehabilitation facilities, and other settings involved with the rehabilitation of the handicapped.

The PDQ may be useful to counselors in the following ways: (1) PDQ is a functional assessment tool and may be useful in measuring the extent of handicap (i.e., how the disability limits the individual's functioning). (2) Using PDQ, counselors will be able to formulate more pointed evaluation questions, which should result in more precise, concrete, useful evaluations.

(3) PDQ is useful in setting goals and planning services. Thus, it is useful in preparing Individualized Written Rehabilitation Plans (IWRP). (4) Repeated measures of the PDQ provide some indication of the impact of rehabilitation services, and document client gains beyond vocational status. (5) Results of repeated measures can be shared with clients to underscore the progress already made and to encourage them to continue. (6) Evaluating the impact of services can help the counselor evaluate the relative superiority of different providers of the same service.

Program managers should find it useful in documenting program movement toward compliance with Congressional intent (i.e., severely disabled must be served first); enabling VR to gather pertinent information about characteristics of the population it serves; providing an indication of the organization's effectiveness and efficiency in that it documents counselor's attention and time devoted to various clients on the basis of functional disability with respect to cost per case, cost benefit return, and production of closure.

Administration

The PDQ is designed to be used in a structured interview and relies heavily on self-report. It can be administered at different times throughout the program. Use is limited to professional rehabilitation counselors who have been trained to use it. Training for the administration and interpretation of the PDQ is facilitated by the use of seven modules developed by the West Virginia Rehabilitation Research and Training Center. The PDQ can be administered in less than an hour.

Scoring

Total raw scores are calculated for each of the eight subscales (Demographic Information not included) of the PDQ. This is accomplished by summing the ratings of each subscale. Then using the Preliminary Estimate of Functioning (PEF) Profile, subscale scores are recorded. The PEF is a single profile which groups each area (e.g., Work Information, PEL, etc.) such that all possible scores are grouped along nine levels. Level 5 is the average level of performance in each area, while levels 1-4 indicate below average performance and levels 6-9 represent above average functioning. The profile provides a visual display of the client's functioning over several areas. This procedure can be done by hand calculations.

Reliability

Three distinct validation samples were used in the development of the PDQ. The College Sample (N = 58) consisted of West Virginia University students selected to provide an assessment of the soundness of the analytic framework supporting PDQ. The West Virginia Sample (N = 151) consisted of clients from the West Virginia Rehabilitation Center at Institute, West Virginia. This center serves multiply-handicapped clients and its caseload typically carries a higher percentage of mentally retarded than would the average field caseload. The National Sample (N = 292) consisted of clients who were administered the PDQ by vocational rehabilitation professionals participating in the PDQ Level I training.

Reliability data were gathered at the subscale level. Highlights are summarized below.

The temporal stability of five of the subscales (i.e., Work Information, PEL, Reading Retention, Internality, and Emotional Functioning) was assessed by retesting a group of clients in the West Virginia sample 30 days after the first administration (N ranged from 26 to 28). Stability correlation coefficients for these subscales ranged from .66 to .97.

The internal consistency of each subscale (except Personal Independence) was determined by calculating item-to-total correlations on the national sample. Across the seven subscales, the highest correlation of an item to its subscale score was .69, with .26 as the lowest. Additional internal consistency data include the following: Internal consistency coefficients (KR-20) calculated on the West Virginia sample for Work Information, PEL, Reading Retention, and Internality ranged from .72 to .97. The average item-to-total correlation on the West Virginia sample for Emotional Functioning was .54. Work Importance yielded a coefficient alpha of .85 on the college sample.

Validity

Evidence for the validity of the PDQ was gathered at the subscale level, using the validation samples described in the Reliability section above. Highlights are summarized below.

Construct validity was examined on the Work Information and PEL sections by comparing the results with those of the Wechsler Adult Intelligence Scale (WAIS) Information subtest. It was reasoned that Work Information should be influenced by the ability of the individual to interact intelligently with his/her environment (as measured by the WAIS Information subtest) as well as by exposure to the world of work, and that the PEL acted in a similar fashion as the WAIS Information subtest, a brief general knowledge scale highly correlated with the WAIS full scale IQ. A correlation of .63 was found between Work Information and WAIS Information (N = 43). The college sample yielded a correlation of .71 between the PEL section and WAIS Information. Further correlations between the PEL section and existing evidence of intelligence were calculated from the West Virginia sample: the PEL correlated .79 with WAIS Information (N = 43), .71 with the WAIS full scale IQ (N = 100), .74 with the Peabody General Information (N = 50), and .78 with the Peabody Reading Comprehension (N = 15).

Construct and discriminant validity were examined by looking at how different groups performed on the subscales:

The Psychomotor and Reading Retention sections were compared for the performance of the mentally retarded and non-mentally retarded. The ANOVA technique applied to a national sample

confirmed the hypotheses that the mentally retarded would perform lower on both subscales than other clients. The F-value obtained for both subscales was statistically significant at the .0001 level. Similar results were found on a comparison of orthopedically and non-orthopedically-impaired clients on the Personal Independence section with F-values significant at the .0005 level.

Comparisons of the mentally ill with the non-mentally ill on the Emotional Functioning section were significant at the .0001 level. Also, it was found that there is almost a full standard deviation separating the means on this subscale for the mentally ill and the orthopedically impaired. This lends additional support to the validity of this subscale.

Comparisons on the Internality subscale indicated that the college sample scored significantly higher than the West Virginia sample ($t = 9.09$, $p < .001$). Results for the national sample fell between the college and West Virginia groups.

At this writing, replication of these studies is underway with a national sample of 1000 clients. This replication includes a longitudinal study comparing PDQ results at intake with the exit status of the client.

Advantages

Some advantages include the following: PDQ provides a quick, graphic way of looking at multiple areas of functioning critical to employability in combination at the same time; it is relatively easy to use; no special tools, equipment or materials are used; and it can be completed by individuals having the skills usually possessed by rehabilitation counselors.

Limitations

The PDQ assumes that the client has a minimal level of communication skills.

References

Moriarty, J. Preliminary diagnostic questionnaire. Dunbar, West Virginia: West Virginia Research and Training Center, 1981.

Availability

Additional information can be obtained from ---

PDQ Coordinator
West Virginia Rehabilitation
Research and Training Center
One Dunbar Plaza, Suite E
Dunbar, WV 25064

The PDQ is available for purchase only after training and certification.

THE SAN FRANCISCO VOCATIONAL COMPETENCY SCALE

Developer(s) The scale was developed by Samuel Levine and Freeman F. Elzey at San Francisco State College in 1968.

Purpose The scale was developed to assess the vocational competence of mentally retarded adults.

Description The scale contains 30 items which are behaviorally anchored. Each item provides either four or five statements which represent varying degrees of competence for a particular task. The scale assesses four dimensions of vocational competency: motor skills, cognition, responsibility, and social-emotional behavior.

Use The scale is designed for use with mentally retarded adults, especially in the sheltered workshop and rehabilitation facility. Both case managers and program managers will find this measure useful in selecting clients for training and/or placement, assessing changes in the client's vocational competence, conducting follow-up studies on those individuals who have left the workshop or facility and have been placed in jobs in the community, and studying the relative efficiency of different training methods.

Administration The scale is generally administered by the workshop supervisor who is most familiar with the client's performance. Observation and some judgment is required of the supervisor. The scale can be administered at different times throughout the workshop experience and takes approximately 10-15 minutes to complete.

Scoring The descriptive statements within each item are ordered by ability level and are numbered from one to four or five, with option one representing the lowest degree of vocational competence. The levels are cumulative in that an individual rated five on an item is presumed to be able to perform at all preceding levels. The vocational competency score is the sum of all of the level numbers selected. The scale can be hand scored in only a few minutes.

Percentile norms are available and based on data gathered from 562 mentally retarded persons (344 males and 218 females) in 45 workshops representing all geographic areas in the United States. Norms were established separately for males and females, as significant differences in scores were found for males and females.

Reliability Two types of reliability data are available - internal consistency and test-retest. The internal consistency measures are split-half correlation coefficients corrected by the Spearman-Brown formula. Calculations were made separately for 344 males and 218 females in workshops; each yielded a reliability coefficient of .95.

A stability coefficient was derived from retest ratings for 54 individuals obtained approximately one month after the initial rating. The stability coefficient was .85, indicating satisfactory reliability scores over a one month interval. (This coefficient was computed for the total group, rather than separately by sex, because of the small number of cases.)

Validity

Coefficients of correlation were computed between vocational competency scores and chronological age, mental age, IQ, school experience, and workshop experience for samples of 344 males and 218 females in workshops. The correlations with IQ were .48 and .38 ($p < .01$), and the correlations with school experience were .15 and .20 ($p < .01$). The other correlation coefficients were not statistically significant.

Advantages

The following advantages are reported: (1) The scale is comprehensive with respect to elements of work situations, making it useful in a wide variety of contexts. (2) Since the performance to be observed is stated in behavioral terms, inference in the evaluation process is minimized and reliability is increased. (3) The technical considerations in the evaluation process are reduced, in that no special test situation need be established nor is it necessary for a psychologist to administer the scale. (4) This is one of the few standardized scales of its kind for mentally retarded clients.

Limitations

The items do not have equal weight since some items are scaled on a 1-4 continuum and others on a 1-5 continuum. Also, the only score obtained is a total score which does provide a global assessment of the individual's competence but does not indicate specific strengths and weaknesses. The test manual states that four dimensions of vocational competency are being measured. Hence, it might have been helpful to include four separate scales, one for each dimension, to assist the training program or workshop instructor in identifying the specific areas which require remediation.

References

Levine, S., & Elzey, F. F. San Francisco vocational competency scale manual. New York: The Psychological Corporation, 1968.

Availability

The San Francisco Vocational Competency Scale and its manual can be obtained from ---

The Psychological Corporation
757 Third Avenue
New York, NY 10017

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SAN FRANCISCO VOCATIONAL
COMPETENCY SCALE

2. REMEMBERING INSTRUCTIONS

After a task has been explained and demonstrated, needs the instructions repeated before he (she) can perform the task on his (her) own.

1 - Nearly always
2 - Frequently
3 - Approximately half the time
4 - Occasionally
5 - Hardly ever

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A SCALE OF EMPLOYABILITY FOR HANDICAPPED PERSONS (SE)

Developer(s)

SE was developed and refined from 1957-1963 at the Chicago Jewish Vocational Service (CJVS).

Purpose

The general purpose of SE is the evaluation of the employability (i.e., the ability to get and keep a job) of vocationally handicapped persons.

Description

SE consists of three separate behaviorally anchored scales, i.e., Counseling Scale (39 items), Psychology Scale (27 items), and Workshop Scale (48 items), which are designed to measure significant components of work behavior among handicapped individuals. Each scale contains a number of subscales which can be scored independently.

The Counseling Scale assesses language skills, dependency of client, effect of handicap upon client, marketability of client as related to his/her handicap, employment record or history, attitude and motivation, appearance and general impression, and marketability of client as related to placement. The Psychology Scale assesses functional level of ability, relationship to authority figures at work, relationship to peers, and effect of client's principle handicap upon employability. The Workshop Scale assesses ability to mobilize and direct energy in the work situation, capacity to tolerate and cope with pressures, tensions, and demands of the job, interpersonal relations with co-workers and foreman, and functional level of ability in the work situation.

Use

SE is appropriate for all clients who are vocationally handicapped as a result of emotional, physical, mental, and/or social disabilitites. It is applicable in most rehabilitation service programs, especially vocational adjustment workshops.

The SE is useful to case managers, program managers, and researchers in a variety of social service, welfare, vocational guidance, and rehabilitation agencies. The instrument is designed to be used in the following situations: determining the feasibility of rehabilitation, integrating diagnostic data, selecting vocational goals, evaluating services needed by the client, measuring vocational improvement, making comparative evaluations of alternative techniques of rehabilitation, and providing an evaluation of caseloads.

Administration

The administration of the SE requires professional judgment. The Workshop Scale is to be administered by the rehabilitation workshop foreman, the Counseling Scale by the vocational counselor, and the Psychology Scale by the psychologist after administering a battery of standardized tests. The scales can be administered whenever needed. For example, Counseling

and Psychology Scales have been administered before the client enters the workshop, and the Workshop Scale has been administered after a two or three week diagnostic period, midway through the workshop program, and at its conclusion. The time required for a workshop supervisor, counselor, or psychologist to complete a scale for a client should be from 10-20 minutes.

Scoring

The scoring procedure for each of the three scales is the same. Total scale and subscale scores can be determined for each; however, it is not intended that the three total scale scores be combined into one SE score.

Each item is scored on a four-point scale, where a score of "1" means the client is clearly adequate, and "4" means the client is clearly inadequate for the particular trait or factor being measured. Scores of "2" or "3" mean the client is "borderline or better" or "borderline or worse," respectively. Ratings on tasks that have not been assigned to the client are omitted and do not influence the score. The raw scores are then weighted and summed and put into a formula to determine the total scale score. A "Table for Converting Raw Scores on the Workshop Scale to Final Scores" is provided and makes scoring even simpler.

The scoring procedure reflects the level of behavior at which a client is judged to be behaving, not just the adequacy of the client's behavior relative to other clients. A client who receives a high total scale score on one of the three scales would be judged as behaving at a very appropriate level overall on that scale, regardless of how well he/she might be doing in particular areas of behavior (as measured by subscales). A client who receives a low total scale score, on the other hand, would be judged as performing on a very inadequate level at the time of the rating.

Reliability

Reliability data are available for the Workshop and Counseling Scales:

Workshop Scale

Internal consistency, examined through product moment intercorrelations of subsections to the total score, was generally high, ranging from .66 ($p < .01$) to .93 ($p < .01$). Subsection correlations with other subsections were lower, ranging from .29 ($p < .05$) to .72 ($p < .01$), indicating less homogeneity.

To determine interrater reliability, 50 clients were rated at the end of the fourth and fifth weeks of the program by different foremen. Product moment correlations ranged from .30 ($p < .05$) to .63 ($p < .01$). Some clients, however, were subject to a changed situation between ratings. This change and not the rater could cause lower correlations. Re-analysis, separating clients who had experienced significant changes in self or type of supervision between ratings from those whose

situation had remained "stable," produced higher interrater correlations for those in a "stable" situation (.47, $p < .01$ to .73, $p < .01$; and lower correlations for the "changed" group (.10 to .54, $p < .01$).

A final measure of the reliability of the Workshop Scale involved test-retest by the same foremen with a four-week period separating the ratings. Reliability coefficients of .81 ($p < .01$) and .95 ($p < .01$) were yielded by the total scale. The individual subsections were more variable in this respect, with coefficients ranging widely between .59 ($p < .01$) and .81 ($p < .01$). Thus, it appears that a foreman's total score can be relied upon, whereas section scores are less dependable measures of employability.

Workshop and Counseling Scales Together

Correlations of each subsection of one scale with the total score of the other did not yield significant results on a small sample. However, it appeared promising that each scale, Workshop and Counseling, was independent and contributed something unique to client assessment.

Validity

Evidence of validity is available for the Workshop and Counseling Scales:

Workshop Scale

Criteria for estimating the concurrent validity of the Workshop Scale include employability ratings, placement ratings, and staff decisions to continue or terminate the client's stay in the program. The employability and placement ratings were made by the entire staff at two different workshops during group conferences held at three predetermined times. The Workshop Scale was completed by individual foremen at the same three times. All correlations were significant at the .05 level, some at the .01 level.

The criteria used for estimating the Workshop Scale's validity as a predictor of employability include placement success, length of placement period, duration of first job, and duration of all jobs (i.e., percentage of time worked on all jobs after getting the first job). Follow-ups at three, six and nine months were studied. The most prominent finding is the variability of the correlations. These range roughly between .03 (correlation of Workshop Scale scores with criteria from nine-month follow-up) and .62 (correlation of Workshop Scale scores with criteria from six and three-month follow-ups). Typically, correlations have values between .20 and .40, and a considerable number are significant at the .05 and .01 levels of confidence. It is clear that the Workshop Scale usually has a moderate degree of power in predicting employment outcomes. The data also suggested that placement success seems to be predicted somewhat more accurately than permanence of employment. It is concluded that the validity of the scale extends out at least over a six-month follow-up period and in instances over a nine-month period.

Counseling Scale

The correlation between total score and job placement was found to be .28 ($p < .05$). Though sample size was small, the scale did show promise as a prediction tool (but not for the minimally handicapped). The need for the refinement of some of the subscales was evident.

Workshop and Counseling Scales Together

The scales were combined through multiple regression. The correlation between the combined scores and getting a job was found to be .51. Though sample size was small, the combined form did show promise as a predictor.

Advantages

The major advantages are (1) the scales reflect behavior directly and can therefore be used by service personnel with varying degrees of experience; (2) the subscales for each scale, or alternatively the factors uncovered for the Final Report, provide profiles for individual strengths and weaknesses; (3) scores on the Workshop and Counseling Scales were reasonably good predictors of work potential; and (4) several research applications are possible.

Limitations

First, reliability scores were not sufficiently high to warrant full confidence, although minor modifications of the SE in other projects conducted by the Jewish Vocational Service had much higher reliability. The key lay in the degree of staff training and continuous monitoring. Second, it took longer to use than some other instruments with similar purposes. Third, the Psychology Scale was not fruitful in the applications tested.

References

Bolton, B. Rehabilitation counseling research. Baltimore: University Park Press, 1979.

Chicago Jewish Vocational Service. A scale of employability for handicapped persons, Final Report. Chicago: Author, 1963.

Chicago Jewish Vocational Service. A scale of employability for handicapped persons, Third Progress Report. Menomonie, Wisconsin: Materials Development Center, University of Wisconsin - Stout, 1959.

Availability

A scale of Employability for Handicapped Persons, Third Progress Report, including the scale items and other pertinent information, is available from ---

Materials Development Center
Stout Vocational Rehabilitation Institute
University of Wisconsin - Stout
Menomonie, WI 54751

An annotated bibliography on the scale and research projects using the scale can be obtained from ---

Asher Soloff
Chicago Jewish Vocational Service
1 South Franklin Street
Chicago, IL 60606

SAMPLE ITEMS

SCALE OF EMPLOYABILITY FOR
HANDICAPPED PERSONS

WORKSHOP SCALE

20(R). Effect of his own foreman's correction on performance: kind of change produced

1. Performance always or almost always improves
2. Performance sometimes remains the same: sometimes improves
3. Performance generally remains the same
4. Performance generally gets worse.

21(R). Reaction to supervisory pressure for increased production

1. Increases output under pressure and sustains increase
2. Increases output, but cannot sustain increase
3. No change in output
4. Output decreases.

22(R). Client's participation in group structures

1. Accepted as a leader: is center of conversation or social activities
2. Active participant in social or conversational activities
3. Passive participant: essentially a listener, but remains part of the social group
4. An isolate from social activities.

COUNSELING SCALE

7(HC). Client's tension level revealed during interview

TENSION LEVEL OR NERVOUSNESS REVEALED BY CLIENT DURING INTERVIEW IS:

1. Appropriate
2. Slightly inappropriate
3. Moderately inappropriate
4. Strongly inappropriate

8(HC). Client's assimilation of handicap

THE DEGREE TO WHICH THE CLIENT HAS LEARNED TO "LIVE WITH" HIS HANDICAP; THAT IS, THE EXTENT TO WHICH HE HAS MADE A DESIRABLE ADJUSTMENT TO IT:

1. High
2. Moderate
3. Slight
4. Moderate

9(HC). Client's attitude toward handicap as a barrier to his employability

THE DEGREE TO WHICH THE CLIENT'S ATTITUDE TOWARD HIS HANDICAP WILL BE A BARRIER TO HIS EMPLOYABILITY OR PLACEABILITY IS:

1. Negligible or none
2. Slight
3. Moderate
4. Severe

PSYCHOLOGY SCALE

6. Potential satisfaction or gratifications

THE POTENTIAL SATISFACTION OR GRATIFICATIONS WHICH THE CLIENT COULD BE EXPECTED TO DERIVE IN THE WORK SITUATION, IN SO FAR AS HIS CONTINUED MAINTENANCE OF EMPLOYMENT WOULD BE DETERMINED BY SUCH SATISFACTIONS OR GRATIFICATIONS, WOULD BE:

1. Adequate: no predictable adverse effects in maintenance of employment.
2. Borderline or better: some slightly adverse effects are predictable.
3. Borderline or worse: some moderately adverse effects are predictable.
4. Inadequate: some considerably adverse effects are predictable.

7. Reaction to pressures and demands beyond customary level

THE CLIENT'S PREDICTED REACTION TO PRESSURES AND DEMANDS BEYOND THE CUSTOMARY LEVEL, TO THE EXTENT TO WHICH APPROPRIATE REACTIONS WOULD BE REQUIRED FOR THE MAINTENANCE OF HIS EMPLOYMENT, WOULD BE:

1. Adequate: no predictable adverse effects in maintenance of employment.
2. Borderline or better: some slightly adverse effects are predictable.
3. Borderline or worse: some moderately adverse effects are predictable.
4. Inadequate: some considerably adverse effects are predictable.

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THE SERVICE OUTCOME MEASUREMENT (SOM) FORM

Developer(s)

The SOM Form was developed by Lowell Lenhart, William J. Westerheide, and M. Clinton Miller III at the Oklahoma Department of Rehabilitation and Visual Services.

Purpose

The SOM Form was designed to assess case difficulty and client change in rehabilitation clients.

Description

The SOM Form consists of 45 items (22 routinely collected demographic items and 23 behaviorally anchored items). A revised version contains 16 behaviorally anchored items rather than 23. The behaviorally anchored items, which place emphasis on the client's functional abilities in relation to employment, require counselor ratings on a five-point scale. An orthogonal factor analysis of the SOM Form requesting five factors yielded the following factors: economic/vocational, physical functioning, psychosocial functioning, family relationships, and education.

Use

The SOM Form seems appropriate for all clients. Since it is quickly and easily administered and scored, it is particularly useful in the state-federal rehabilitation system. It is useful to case managers and program managers. It provides the case manager an indicator of the client's functioning and repeated measures may indicate success of the case manager's intervention or needed changes in services. The SOM Form provides program managers a more adequate outcome measure of rehabilitation services (i.e., various potential client gains beyond the traditional vocational area); therefore, it permits more effective program evaluation, development, and management.

A very thorough explanation of the SOM Form to administrators, middle managers, and especially counselors is critical to the successful introduction of this measure into a program. Pre-initiation training and follow-up reports and discussions are vital.

Administration

The SOM Form contains both objective and subjective data, and relies on counselor judgment. It has been administered as a pretest measure after acceptance for rehabilitation services and again as a posttest measure after closure or one year after pretest. Familiarity with the instrument and knowledge of the client's present level of functioning is necessary to complete the SOM Form. After interviewing the client and reviewing existing records, the measure can be administered in about five minutes.

Scoring

Factor scores, area scores, and total scores can be calculated. Factor and area scores consist of the sum of the ratings for the items in that factor or area divided by the number of items in the factor or area. A total score is computed by summing the factor or area scores. Change scores for the area, factors, and total scores can be derived by subtracting the posttest scores from the pretest scores. The SOM Form can be hand scored in five to ten minutes.

Reliability

A reliability study of the SOM Form involved counselors from three states. Five counselors in each state rated ten test cases using the SOM Form. Product moment correlation coefficients were computed for all possible pairs of 15 counselors involved. A pooled estimate of the correlations was obtained by transforming the coefficients, using Fisher's z, then averaging the z scores, and converting back to a pooled estimate of the correlation. The reliability estimate for the total scores achieved by the 15 counselors was .93. The reliability coefficient for the five areas ranged from .69 to .95. The results indicate a very good interjudge reliability for the SOM Form. Thus, it provides a method of establishing the client's physical, educational, and psychosocial functioning and hence a method of measuring client status and client change.

Validity

While the face validity of the SOM Form is substantial, a factor analysis was performed to arrange client attributes into the most meaningful subgroups for the measurement of change and to explore the possibility of deleting redundant scales. The factor analysis was performed on pretest data which included 1945 SOM Forms completed by 389 rehabilitation counselors in a six-state area. Factor analysis yielded the five following factors: Factor 1, economic/vocational; Factor 2, physical functioning; Factor 3, psychosocial functioning; Factor 4, family relationship; and Factor 5, education. The factors correspond to the original purpose of the instrument which was to measure the status of the client in the physical, psychosocial, and educational areas as well as the traditional economic/vocational area.

A second factor analysis utilized only 16 scales and the academic education item as compared to the original SOM Form 23 scales. Of the original 389 counselors, 364 completed ratings of their clients on Global Case Difficulty, Time and Effort, and Severity of Handicap six months after the pretest. Substantial correlations were found between SOM Form ratings (i.e., area scores, factor scores, and total scores) and counselor ratings, significant beyond the .01 level. Little was lost by using the shorter factored version. The SOM Form had demonstrated solid internal structure and a substantial relationship to counselor ratings of Global Case Difficulty, Time and Effort, and Severity of Handicap.

Advantages

Some of the advantages of the SOM Form include the following. First, case difficulty and client change are viewed in terms of client functioning in relationship to employment. Second, the instrument provides for pre- and post-measures. Third it can be administered and scored quickly and easily by the rehabilitation counselor. Fourth, it covers a broad area of client change beyond the traditional vocational area. Fifth, it is practical for agencies that lack sophisticated data processing equipment.

Limitations

Some limitations inherent in the SOM Form include the following: while the rating is standardized, evaluation still relies on counselor judgment regarding the client's situation and degree of change; and the system provides no way of determining the impact of the rehabilitation process upon the observed change.

References

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Vandergoot, D. Further evidence of the factorial validity of the service outcome measurement form. Rehabilitation Counseling Bulletin, 1976, 20, 144-147.

Westerheide, W. J., Lenhart, L., & Miller, M. C. Monograph II: Field test of a service outcome measurement form. Oklahoma City, Oklahoma: Department of Institutions, Social and Rehabilitative Services, 1974.

Westerheide, W. J., Lenhart, L., & Miller, M. C. Monograph III: Field testing of a service outcome measurement form. Oklahoma City, Oklahoma: Department of Institutions, Social and Rehabilitative Services, 1975.

Availability

The SOM Form and other pertinent information can be obtained from ---

Program Evaluation Unit
Division of Rehabilitative and Visual Services
Department of Human Services
P.O. Box 25352
Oklahoma City, OK 73125

SERVICE OUTCOME MEASUREMENT FORM

I. DIFFICULTY ONLY

A. Anticipated Change in Client's Level of Functioning During Services

_____ 1. Alleviate
_____ 2. Improve Greatly
_____ 3. Improve Somewhat
_____ 4. Remain the Same
_____ 5. Deteriorate

B. Employment Prognosis

_____ 1. Presently employed in competitive labor market and will continue on same job or higher job
_____ 2. Employable at former job or another job without training
_____ 3. Vocational training required; client has training potential
_____ 4. Limited vocational training potential
_____ 5. No vocational training potential

III. ECONOMIC VOCATIONAL STATUS

D. Primary Source of Support

_____ 1. Own Earnings
_____ 2. Dividends, Interest, Rent, and Savings
_____ 3. Family and friends, or non-disability insurance (Retirement, Survivors, Annuity, etc.)
_____ 4. Disability and Sickness Insurance (SSDI, Workmen's Compensation, Civil Service, etc.)
_____ 5. Public Assistance, Private Relief, or Resident of Public Institution

E. Dependency of Client on Others for Financial Support

_____ 1. Completely independent
_____ 2. Approximately 25% of income comes from sources other than earnings
_____ 3. Approximately 50% of income comes from sources other than earnings
_____ 4. Approximately 75% of income comes from sources other than earnings
_____ 5. Totally dependent on sources other than earnings

IV. PHYSICAL FUNCTIONING

A. General Health Status Other Than Disability

_____ 1. Feels good most of the time, has feelings of vitality
_____ 2. Generally feels good, but reports minor problems that seem reasonable
_____ 3. Multiple complaints, which seem mostly reasonable
_____ 4. Multiple complaints that seem mostly unjustified by physical condition
_____ 5. Multiple complaints that seem totally unjustified by his physical condition

V. ADJUSTMENT TO DISABILITY

A. Identification with Worker Role

_____ 1. Client feels personal need to be independent, and do his share
_____ 2. Identity to worker role developing or deteriorated somewhat since disability but wants to work
_____ 3. Weak identity to worker role, little idea of day-to-day work demands
_____ 4. Client has adjusted to being dependent; talks of working but is unconvincing
_____ 5. Client strongly identifies with handicap and clings to dependent role

B. Compatibility of Employment Expectations with Client's Personality and Physical Condition

_____ 1. Client seems ideally suited for the work he desires
_____ 2. Client's employment expectations are reasonable, although not ideal
_____ 3. Client has no ideas concerning possible vocational goals, or his ideas are more "day dreams" than employment expectations
_____ 4. Client's employment expectations are very unrealistic and impractical
_____ 5. Client's employment expectations are so totally unrealistic and impractical, counselor must work with other professional persons, agencies, or institutions before client can proceed in the rehabilitation process

VI. SOCIAL COMPETENCY

A. Language Facility

_____ 1. Reads and writes well; has no trouble understanding and communicating common vernacular and could learn to use technical language
_____ 2. Reads, speaks, and writes adequately; has no particular problem filling out employment applications, or holding job interviews
_____ 3. Reads, speaks, and writes adequately for job applications and interview, but speaks slowly and may have some difficulty with other than simple written instructions
_____ 4. Reads, speaks and/or writes poorly, and will have difficulty interpreting even simple written instructions
_____ 5. Almost complete lack of language, functionally illiterate, extremely small vocabulary

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Developer(s)	The scale was developed in 1971 by Agnes Y. Song, then with the Cooperative Services Agency in Burlington, Wisconsin, and Ralph H. Song, then at Wisconsin State University.
Purpose	This scale was designed to assess the work adjustment (i.e., work performance and work-related behaviors) of mentally retarded adolescents and adults in all work settings.
Description	This follow-up instrument contains 52 items that assess work adjustment in five areas: work ability, work habits, withdrawn behavior, aggressive behavior, and bizarre behavior. These five subscales, or sections, are intended to correspond to the list of important behavioral variables of retardates identified by the American Association on Mental Deficiency, namely skills, conformity, and interpersonal relations. Each of the 52 items is a five-point scale (i.e., very poor to excellent or very often to never).
Use	This scale is designed to be used with mentally retarded adolescents and adults. It seems appropriate in settings where work performance needs to be assessed (e.g., sheltered workshops, rehabilitation facilities, etc.). The scale is useful to both case managers and program managers. It provides case managers an indication of the vocational adjustment of the mentally retarded client. Therefore, it is helpful in making decisions about placement as well as providing prospective employers more detailed information about prospective employees. The scale is beneficial to program managers in identifying what skills persons completing rehabilitation have acquired. This is also attractive in that sections of the scale can be used as needed.
Administration	The rating is conducted by the immediate work supervisor of the individual being evaluated during or after training or employment. The administration of the entire scale takes 10-15 minutes.
Scoring	Both subscale scores and total scores are calculated. Items are rated on five-point scales with values ranging from 0-4. The scores are simply the cumulative summation of all of the item scale values within a subscale or the entire scale. The reference point for rating is the average worker in a particular work setting.
Reliability	The stability of the scale was assessed by the Pearson correlations between the scores obtained from the first and second ratings. The time interval between the two ratings was about a week. The test-retest reliability coefficient for sections

I, II, III, IV, V, and the total scale were .90, .93, .78, .91, .75, and .92, respectively.

The comparability of the halves of the scale was indicated by a high split-half reliability coefficient of .97. The internal consistency of the scale was further studied by looking at the intercorrelations among the sections of the scale and the total scale. The correlations between sections I, II, III, IV, and V and the total scale showed .79, .83, .63, .76, and .88, respectively. It can be seen that the exception of sections III and IV, the sections show substantially high correlations. These high correlations suggest homogeneity and give some evidence of the internal consistency of the scale.

Validity

Concurrent validity was examined by looking at the scale results against the criterion of the supervisor's independent classification of the retarded worker as excellent, good, fair, poor, or very poor. Correlations with the criterion were assessed by deriving the Pearson *r*'s between various sections of the scale and the criterion classifications of excellent, good, fair, poor, and very poor. All of the *r*'s were substantially high except for section IV, aggressive behavior. The Pearson *r*'s with criterion are as follows: section I, work ability, .91; section II, work habits, .89; section III, withdrawn behavior, .78; section IV, aggressive behavior, .59; section V bizarre behavior, .88; and total score, .97.

The scores of the five criterion groups (i.e., very poor, poor, etc.) were contrasted. Total scale score means of the five criterion groups were compared by analysis of variance. The resulting *F* of 198.5 was significant at $p < .001$. The Duncan multiple *R* values indicate that the scale as a whole discriminated different adjustment groups at a statistically significant level.

Predictive validity was examined using a criterion based on 45 retardates orginally rated by their prospective work supervisors in the institution and then placed in community jobs for a minimum of two weeks. The employers were asked to classify these workers as either excellent, good, fair, poor, or very poor. The *r*'s between this criterion and sections I, II, III, IV, V, and the total scale were -.22, .44, -.07, .07, .10, and .16, respectively. Only section II, work habits, showed a moderate predictive power. These findings may have resulted from different criterion situations, as factors associated with vocational adjustment vary from job to job program (Bae, 1968). Standardization of the scale in a variety of work settings may improve the predictive power.

Construct validity was examined by looking at the correlations of the scale sections with IQ. The *r*'s between sections I, II, III, IV, and V and the Wechsler Intelligence Scale for Children and Wechsler Adult Intelligence Scale IQ showed

correlations at .19, .11, .13, -.05, and .07. These results indicated that the scale was relatively free from the influences of IQ.

Advantages — The scale can be used with clients at any level and in different work settings.

Limitations — A clear description of the client's work environment (e.g., types of tasks and characteristics of the clients) must be included when results are reported to present an accurate picture.

References

Bae (Song), A. Y. Factors influencing vocational efficiency of institutionalized retardates in different training programs. American Journal of Mental Deficiency, 1968, 72, 871-874.

Song, R. H. and Song, A. Y. Development of a vocational rating scale for the retarded. Journal of Counseling Psychology, 1971, 18 (2), 173-176.

Availability — Copies of the scale can be obtained from ---

Ralph H. Song, Ph.D.
925 Burningwood Way
Madison, WI 53704

SAMPLE ITEMS

VOCATIONAL ADJUSTMENT RATING SCALE
FOR THE RETARDED

GENERAL INSTRUCTIONS

Please read each line on the scale carefully, and place a check mark(✓) on the appropriate line under the scale value to which this particular trainee or worker belongs. Please do not skip any item. The reference point for your rating is the average performance or behavior which you would expect in your particular work situation. TO OBTAIN A TOTAL SCORE, ADD THE SCALE VALUE NUMERALS CORRESPONDING TO THE CHECK MARK.

0	1	2	3	4
Very Poor	Poor	Fair	Good	Excellent

Parts I & II: Work Efficiency Score _____

I. Work Ability

1.	Handling tools and materials.	____	____	____	____	____
2.	Following directions.	____	____	____	____	____
3.	Motor coordination and movement	____	____	____	____	____
4.	Ability to concentrate.	____	____	____	____	____
5.	Quantity of work.	____	____	____	____	____
6.	Quality of work	____	____	____	____	____
7.	Recognizes and corrects errors.	____	____	____	____	____
8.	Independence from supervision	____	____	____	____	____
						TOTAL ____

II. Work Habits

1.	Attendance.	____	____	____	____	____
2.	Punctuality	____	____	____	____	____
3.	Care to tools and property.	____	____	____	____	____
4.	Thoroughness.	____	____	____	____	____
5.	Dependability	____	____	____	____	____
6.	Initiative.	____	____	____	____	____
7.	Stability	____	____	____	____	____
8.	Assumes responsibility.	____	____	____	____	____
9.	Cooperation and willingness	____	____	____	____	____
10.	Eager to perform well	____	____	____	____	____
11.	Attitude toward supervisor's criticism.	____	____	____	____	____

0	1	2	3	4
Very Poor	Poor	Fair	Good	Excellent

12. Attitude toward co-workers . . . . . ____ ____ ____ ____ ____
13. Personal appearance. . . . . ____ ____ ____ ____ ____
14. Honesty. . . . . ____ ____ ____ ____ ____

TOTAL ____

0	1	2	3	4
Very Often	Fairly Often	A Few Times	Once or Twice	Never

Parts III, IV, & V: General Behavior

Score ____

III Withdrawn Behavior

1. Stays by himself . . . . . ____ ____ ____ ____ ____
2. Shows no interest in anything. . . . . ____ ____ ____ ____ ____
3. Is depressed (sad, weeping). . . . . ____ ____ ____ ____ ____
4. Is very slow in movement . . . . . ____ ____ ____ ____ ____
5. Does not converse with co-workers. . . . ____ ____ ____ ____ ____
6. Does not respond to supervisor in sentences. . . . . ____ ____ ____ ____ ____
7. Ignores activities around him. . . . . ____ ____ ____ ____ ____
8. Does not smile or laugh when expected. . ____ ____ ____ ____ ____
9. Sits still and daydreams . . . . . ____ ____ ____ ____ ____

TOTAL ____

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VOCATIONAL BEHAVIOR CHECKLIST (VBC)
EXPERIMENTAL EDITION

Developer(s)

The VBC was developed by Richard T. Walls, Thomas Zane, and Thomas J. Werner at the West Virginia Rehabilitation Research and Training Center and copyrighted in 1978.

Purpose

The VBC provides a listing of objectives which can be used to describe each client's vocational competence, to prescribe curriculum to mediate deficiencies, and to evaluate progress.

Description

The VBC is an extensive list of 344 vocationally relevant skill objectives carefully specified in terms of conditions of performance, specific behaviors, and standards of performance. The objectives are classified and presented in seven categories as follows: prevocational skills, job-seeking skills, interview skills, job-related skills, union-financial-security skills, work performance skills, and on-the-job social skills. Optional data sheets are suggested as a way of monitoring daily programs of trainees.

Use

The VBC is designed to assess clients in vocational training and on-the-job training programs. It can be useful in the following settings: state-federal VR, sheltered workshops, educational facilities, and rehabilitation facilities.

The VBC is valuable to program managers, case managers, clients, and a host of other professionals in rehabilitation, education, and training. Case managers responsible for writing Individualized Written Rehabilitation Plans will find objective documentation for legislation requirements as well as a means of goal setting which is responsive to clients. The VBC defines work and work-related skills clearly, specifies a broad range of work skills applicable to a wide range of jobs, sets clear standards for mastery of skills, and documents client progress. Directors of vocational training facilities will find an objective means to accountability, cost effectiveness, and appropriateness of programs and staffing. Also, the measure provides a means of outlining an objectively specified curriculum for prevocational and vocational skills. The program evaluation specialist will find an objective means of documenting client or trainee progress, and accordingly effectiveness of training procedures.

Subsets of the instrument can be used. Only those skills perceived as relevant to the individual client are assessed, and others are omitted. This can be done without distorting any global score of vocational competence because the instrument is criterion referenced (specific behavioral competence) rather than norm referenced (scores compared to those of a norm group). Likewise, additional skill objectives can be

written in a manner that carefully specifies the condition and instruction, the behavior, and the standard.

The VBC may also be used to construct individualized written plans for other students, trainees, or clients as mandated by federal legislation. In education, for example, it can aid in the development of the Individualized Education Program (IEP), which is required for all handicapped children. It can also be used in the development of the Employment Development Plan (EDP), which is recommended for all persons served by the Comprehensive Employment Training Act (CETA).

Administration

The use of the VBC requires professional judgment, but paraprofessionals may easily be trained. The VBC can be administered as often as necessary to maintain an accurate view of the client's competence. In some instances a single assessment of skill objectives may be sufficient, but in other cases a periodic assessment of client or trainee skills is desirable. Administration is achieved by observing the client; the time necessary varies depending on the number of objectives deemed appropriate for the individual client.

Scoring

A Skill Summary Chart and a Skill Objective Profile are developed. The Skill Summary Chart is used as an overall record of all the skill objectives achieved by the client in all seven categories. The skills mastered by the client in initial assessment and in training, as well as the date the skill was demonstrated or completed, are entered on the Skill Summary Chart. For any skill objective mastered, a "+" is entered. For any objective failed in initial assessment, a "-" is entered. The date training was begun and the date training was completed (the skill was mastered) are recorded. The summary column provides a concise view of the skill objectives mastered in either initial assessment or training, and so summarizes the individual client's progress to date in each skill category.

The Skill Objective Profile allows for a quick survey of overall client progress in each of the seven categories. The profile is constructed by dividing the number of skill objectives mastered in a category by the total number of skill objectives considered applicable to the client in that category, multiplied by 100. The instrument is hand scorable.

Reliability

The VBC was considered in terms of reliability as stability and reliability as interobserver agreement. Reliability as stability was measured using test-retest procedures (two weeks between tests) for five vocational rehabilitation clients observed by two observers. Five skill objectives were randomly selected from each of the seven categories for evaluation. Stability across all seven categories ranged from 92% to 100%.

70

The overall mean stability of the VBC was 97%. An index of interobserver reliability was computed by comparing the scores of Observer 1 and Observer 2 at Time 1. Interobserver reliability across all seven categories ranged from 84% to 100%. The overall interobserver reliability of the VBC was 95%.

Validity

The content validity of the VBC indicates how well the skill objectives sample vocational skills. It does not yield a numerical value. Rather, it gives a clear definition of the universe represented and describes the procedure followed in sampling that universe. Construction of the VBC began with more than 200 behavior checklists collected from rehabilitation facilities and schools. Of these checklists, 21 which contained items related to assessing vocational behaviors were selected. Thus, the development of the VBC was based on suggestions for objectively assessing vocational behavior from a wide variety of training facilities and vocational training personnel spread over a wide geographic area. The VBC is much more comprehensive than the wisdom and experience of a single facility, staff, or vocational training group. Thus, the content validity of the VBC must be considered high.

Criterion-related validity was examined by comparing the VBC with various indicators of vocational competence perceived as important by employers: essential job skills, desirable employee characteristics, important job-related behavior, and job retention skills. The criterion-related validity with these four sources was .95, 1.0, .96, and 1.0, respectively. This yields an overall average criterion-related validity of .97. Thus, one can be confident that the VBC includes the important and relevant vocational skills.

Advantages

A major advantage of the VBC is that the skills to be assessed may be adjusted to suit the type of training and the individual needs of the worker or trainee.

Limitations

Because skill objectives may be added, deleted, and/or changed, the VBC is simply a checklist of skills (criterion-referenced measure); it is not a standardized instrument (norm referenced).

References

University of Florida Rehabilitation Research Institute, Gainesville. The vocational behavior checklist measures client abilities. Rehabilitation Brief: Bringing Research into Effective Focus, February 15, 1980, 3 (3).

Walls, R. T. & Werner, T. J. Vocational behavior checklist. Mental Retardation, August, 1977, 30-35.

Walls, R. T., Zane, T., & Werner, T. J. The vocational behavior checklist (experimental edition). Dunbar, WV: Research and Training Center Press, 1979.

Availability Copies of the checklist and other pertinent information can be obtained from ---

Publications Department
West Virginia Rehabilitation
Research and Training Center
One Dunbar Plaza, Suite E
Dunbar, WV 25064

SAMPLE ITEMS

VOCATIONAL BEHAVIOR CHECKLIST

Experimental Edition

PREVOCATIONAL SKILLS

Color Sorting 14

Condition: Given ten objects of one color, ten objects of a second color, and ten objects of a third color (all of various shapes and sizes mixed together), and three containers.

Instruction: "Sort the objects by color into three containers."

Behavior: Client will sort the objects by color into three containers.

Standard: Behavior within five minutes on three of four occasions. The three different colors must be sorted into the three containers with no errors.

JOB-SEEKING SKILLS

Want Ads 7

Condition: Given the classified advertisements of a newspaper containing a minimum of ten job openings and/or notices for on-the-job training.

Instruction: "Point to three different ads for job openings or on-the-job training."

Behavior: Client will point to three different ads.

Standard: Behavior within three minutes on three of four occasions. Each of the three ads must be different and state an opportunity for employment or training.

Resume 16

Condition: Given a sample copy of an employment resume.

Instruction: "Write a resume about yourself following the format of this sample."

Behavior: Client will write a resume following the format of the sample.

Standard: Behavior within one day. The resume must consist of accurate information in each of the following areas: (1) name, address, telephone number; (2) age, date of birth; (3) sex; (4) marital status; (5) education; (6) work experience; (7) special skills/abilities; (8) interests; and (9) references (a minimum of three persons -- names, addresses, telephone numbers).

INTERVIEW SKILLS

Work Experience 14

Condition:	Given a simulated job interview and ten different questions related to previous work experience, current skills, education, and personal interest and goals.
Instruction:	(Interviewer asks ten questions related to the above areas.)
Behavior:	Client will verbally answer all questions.
Standard:	Behavior within 30 minutes in four consecutive interviews. The answers to the questions must be in agreement with the information on the job application.

WORK PERFORMANCE SKILLS

Confusion 14

Condition:	Given a situation in the work setting or part of the job with which the client is unclear as to how to perform.
Instruction:	(In the natural situation, this behavior should occur with no instruction. Use this instruction only if training is required.) "When you come to something you don't understand, contact a co-worker or supervisor."
Behavior:	Client will contact a co-worker or supervisor.
Standard:	Behavior within five minutes on four consecutive occasions. Co-worker or supervisor must be contacted before work continues.

ON-THE-JOB SOCIAL SKILLS

Supervisor 16

Condition:	Given only the verbal instruction.
Instruction:	"Who tells you what to do at work, and who do you ask if you have any questions?"
Behavior:	Client will point to and/or state the name of his/her immediate supervisor.
Standard:	Behavior within ten seconds on four consecutive occasions. Person named or pointed to must be the immediate supervisor of the client.

Reproduced by permission. Copyright © 1978. Richard T. Walls, Thomas Zane, and Thomas J. Werner as the Vocational Behavior Checklist (Experimental Edition.)

THE VOCATIONAL DIAGNOSIS AND ASSESSMENT OF RESIDUAL EMPLOYABILITY (VDARE) PROCESS

Developer(s)

The VDARE Process and the VDARE Worksheet were developed by Timothy Field and Jack M. Sink, both faculty members in the Rehabilitation Counseling program at the University of Georgia, in 1979.

Purpose

The VDARE Process is designed for job analysis and the assessment of vocational potential.

Description

The VDARE Process uses the Dictionary of Occupational Titles (DOT) and the client's personal history and current level of functioning as information (medical, psychological, social, educational, and vocational) is synthesized to predict vocational functioning potential. The client's work history provides the basis to build an assessment of client vocational functioning capacities. This is accomplished by attaching the job demand characteristics of the client's work history experience (derived from job analysis information on these jobs, using the DOT) to the client as indicators of his/her demonstrated functioning capacities.

The Process is outlined in the following five phases: (1) initial collection of vocationally relevant background data; (2) tracing client's vocational history through the DOT and collapsing the trait-factor profiles from this history into a single Unadjusted Vocational Profile (UVP); (3) alteration of the UVP, trait-by-trait, to reflect the impact of the vocationally relevant client data which results in a tentative Residual Employability Profile (REP); (4) formulating an evaluation plan to collect the necessary medical, psychological, social, educational, and vocational data needed to clarify and finalize the REP; (5) selecting the vocational objective(s), planning services, and completing the VDARE Technical Data Report.

The Process Worksheet is a four-page display device used to compile and present the information processed. Page 1 is used to record referral and interview data, especially the client's work history. Pages 2 and 3 include the VDARE "grid" for job/client profiling and space for key reference notes concerning differences between UVP and REP. The grid contains space for DOT codes and job titles; Guide to Occupational Exploration (GOE) Code and worker trait information for each job; UVP, including traits to be clarified; REP, including documentation references; job possibilities; and vocational outcome. Page 4 provides space for objectives and methods for the evaluation plan and service plan.

Use

The process seems appropriate for assessing all clients. It seems to be useful in assessing clients in rehabilitation facilities, educational facilities, public and private rehabilitation settings, and in the assessment of injured workers (e.g., Worker's Compensation, Social Security). It is also applicable to non-handicapped individuals.

The VDARE Process can aid case managers and other rehabilitation professionals in translating client/employee case data into more meaningful terms. The REP is beneficial in several ways: it provides a convenient way of identifying and specifying necessary client evaluations; it provides a convenient and efficient method of incorporating evaluation results in the selection of vocational objectives; and it can be used to determine services necessary to bring the client's present level of functioning into line with the level of functioning required for the most feasible job.

The process is also beneficial to program managers. The vocational outcome profile contained in the VDARE grid aids in planning and finalizing follow-up services. The vocational profile outcome data can also be used for program evaluation and other research endeavors designed to enhance service delivery.

The developers of the Process indicate it is useful for vocational guidance and counseling services in schools and personnel screening in business and industry, as well as for training and promotional practices.

Administration

The completion of the process relies on the client's self-report and clarification of work history and professional judgment. To administer the process and complete the Process Worksheet, the user must have a functional understanding of job analysis and be trained in the use of the DOT (1977 edition). The procedure relies on personal interview and review of the compiled data and should take about 30 minutes to administer.

Scoring

No scoring is involved. The VDARE Process organizes and synthesizes pertinent client information.

Reliability

The reliability of this process is dependent upon the accuracy of the client's self-report and related consultive data.

Validity

The validity of the VDARE Process rests on the validity of the data base used. While local job analysis data are ideal, DOT data can be used when local data are unavailable. The validity of the REP rests entirely on the professional judgment of the VDARE Process user and the clarifying data the user secures from allied professionals.

Advantages — A major advantage of the VDARE Process is that it compliments existing evaluation systems and techniques.

Limitations — The procedure seems to require a considerable amount of time.

References

Field, T. F. & Field, J. (Eds.). The classification of jobs according to worker trait factor: An addendum to the 1977 edition of the dictionary of occupational titles. Athens, Georgia: The McGregor Co., 1980.

Field, T. F. & Sink, J. Vocational assessment and jobs. Athens, Georgia: The McGregor Co., 1981

Field, T. F. & Sink, J. The vocational expert. Athens, Georgia: Burman Printing, 1981.

McCroskey, J., Wattenbarger, W., Field, T. F., & Sink, J. M. The vocational diagnosis and assessment of residual employability - in brief. Roswell, Georgia: VDARE Service Bureau, 1978.

Vander Vegt, D. & Field, T.F. Labor market access. Athens, Georgia: Burman Printing, 1981.

A list of additional references can be obtained from the VDARE Service Bureau, Inc. (see Availability section for the address).

Availability — Materials related to the VDARE Process are available from ---

VDARE Service Bureau, Inc.
P.O. Box 1945
Athens, GA 30603

SAMPLE ITEMS

VDARE PROCESS WORKSHEET

Client's Name _____

Data Base 1965___ 1977_____ or local _____

D.O.T. Code #	W.T.G. Page #	INDUSTRY	D.O.T TITLE	Physical Demands: Strength (SLMHV)	Climb/Balance	Stoop/Bend	Reach/Handle	Talk/Hear	Vision	Working Conditions: I/O/B	Cold	Heat	Wet/Humid	Noise/Vibs	Hazards	Fumes/Dust/Odor	GED: Reasoning (1...6)	Math (1...6)	Language(1..6)
Work History				1	2	3	4	5	6	1	2	3	4	5	6	7	R	M	L
			1																
			2																
			3																
			4																
			5																
			6																
Unadjusted Vocational Profile (UVP)																			
(traits to be clarified)																			
Residual Employability Profile (REP)																			
(documentation references)																			
Job Possibilities																			
			1																
			2																
			3																
			4																
			5																
			6																
			7																
Vocational Outcome																			
			1																

Vocationally Relevant Information, (Medical, Social, Psychological, Educational & Vocational)

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WORK ADJUSTMENT RATING FORM (WARF)

Developer(s) The WARF was developed by James A. Bitter and D. J. Bolanovich at the Jewish Employment and Vocational Services in St. Louis, Missouri, from 1966 - 1968.

Purpose The WARF is designed to measure work readiness and to predict job adjustment in mentally retarded workshop clients.

Description The WARF is a 40-item rating scale which purports to assess observable work behaviors. It contains eight subscales and each subscale has five items. The five items represent different levels of performance ranging from low to high. Each item is rated by checking "yes" or "no." Areas investigated by the eight subscales are as follows: amount of supervision required, realism of job goals, teamwork, acceptance of rules or authority, work tolerance, perseverance in work, extent trainee seeks assistance, and importance attached to job training.

Use The WARF is designed to assess mentally retarded clients participating in workshop settings. The case manager can use the WARF to measure the strengths and weaknesses of workshop participants, to formulate rehabilitation objectives, and to assess progress toward attaining these objectives. Program managers find it useful for program planning and evaluation.

Administration Professional judgment is required in rating workshop trainees. The rater can administer the WARF in three to seven minutes after acquiring reasonable familiarity with the client. (Three weeks of observation is an appropriate period of time.) When assessing individual trainees it is recommended that more than one rater participate and interpretations be made cautiously.

Scoring A total score is calculated which consists of cumulative positive responses. Since there are positive "yes" and positive "no" responses, the use of a scoring key facilitates accurate and convenient scoring. Positive responses are identified in the manual; therefore, constructing a scoring key is simple. With the use of a scoring key, the WARF can be hand scored in about five minutes.

Reliability An analysis of variance technique was used to determine an estimate of reliability. It was used to compute the average intercorrelation of the four raters rating 26 clients for both adjusted and unadjusted WARF ratings. Coefficients of interrater agreement were found to be quite high, with a .91 reliability coefficient for ratings not adjusted for rater bias and .94 for adjusted ratings.

Another look at interrater reliability examined the interrater correlations of three counselors and one workshop foreman on a total of 39 clients. Product-moment correlations between the various pairs ranged from .67 to .98, indicating fairly high agreement regarding the rank ordering of clients. However, interrater agreement on absolute scale values indicated that there was a significant difference ($p < .01$; t test) in the mean score assigned by the workshop foreman and the nearest counselor but there were no significant differences among the counselors. It appears that the workshop foreman was rating from a different point of reference.

Validity

The validity of the WARF has been evaluated using four raters who evaluated the same sample of work adjustment clients ($N = 26$). The ratings were made after knowing the clients a minimum of three weeks. The predictive validity of the WARF was evaluated by correlating these ratings with a measure of successful job adjustment. Follow-up information was collected for the sample for a period of two and one-half years after ratings were made, and the criterion of successful job adjustment was considered to be a minimum of six months of continuous employment. Ratings were adjusted for bias using an analysis of variance technique. (Three types of rater errors were found. These errors were leniency and severity errors, halo error, and a rater's general tendency to over- or undervalue certain subscales. Hence, the WARF ratings are subject to rater bias.) Predictive validity was found to be somewhat useful for group predictions as a result of a .56 coefficient of correlation with job adjustment criteria.

Advantages

Using the WARF is beneficial because it provides a convenient, quick, and inexpensive method to assess clients.

Limitations

The WARF is subject to individual rater bias which can significantly affect its predictive validity. However, rater bias does not significantly affect the mean predictive validity or the mean reliability estimate.

References

Bitter, J. A. Bias effects on validity and reliability of a rating scale. Measurement and Evaluation in Guidance, 1970, 3 (2), 70-75.

Bitter, J. A. & Bolanovich, D. J. WARF: A scale for measuring job-readiness behaviors. American Journal of Mental Deficiency, 1970 74 (5), 616-621.

Esser, T. J. (Ed.). Client rating instruments for use in vocational rehabilitation agencies. Menomonie, Wisconsin: Materials Development Center, University of Wisconsin - Stout, 1975.

Availability Additional information, single copies of the WARF, and permission to reproduce the WARF can be obtained by writing to ---

James A. Bitter
School of Business
University of Northern Colorado
Greeley, Colorado 80639

WORK ADJUSTMENT RATING FORM

INSTRUCTIONS:

The Work Adjustment Rating Form is a rating scale consisting of 40 items relating to observable work behaviors. You are asked to answer each item either "yes" or "no" for the trainee identified on the form. Some items appear very similar. Answer each item. Please do not omit any items.

Mark your response with an "X" over your choice.

1.	With training and direction, trainee can work independently under occasional supervision.	Y	N
2.	Trainee has developed realistic job goals and readily seeks counsel in planning.	Y	N
3.	Trainee can work with only one or two others whom he particularly likes.	Y	N
4.	Trainee knows and usually follows rules without reminder.	Y	N
5.	Trainee becomes frustrated and gives up easily on almost any job.	Y	N
6.	Trainee generally stays at work but is easily distracted and loses interest.	Y	N
7.	Trainee seeks assistance only on bonafide problems and after attempting to solve them himself.	Y	N
8.	Trainee desires work but does not do anything himself to find it.	Y	N
9.	Trainee catches on easily and does his work with practically no supervision.	Y	N
10.	Trainee considers job plans but they are not compatible with his abilities.	Y	N
11.	Trainee works effectively in small (2-3) groups.	Y	N
12.	Trainee shows open hostility to authority and rules.	Y	N
13.	Trainee generally works at routine jobs readily without resistance.	Y	N
14.	Trainee is a persistent worker on all assignments, even under adverse circumstances.	Y	N

15. Trainee generally handles own problems with only occasional help. Y N

16. Trainee expresses interest in future work, but not in a job now. Y N

17. Once shown what he must do, trainee applies himself diligently without much supervision. Y N

18. Trainee has begun to think about possible occupations for himself that are within his capabilities. Y N

19. Trainee is unable to work effectively with any others. Y N

20. Trainee understands rules and regulations and adheres to them consistently. Y N

21. Trainee tries simpler jobs but usually becomes discouraged when he encounters changes in routine. Y N

22. Trainee applies himself diligently to almost all kinds of work. Y N

23. Trainee frequently seeks help and attention for personal as well as work-related problems. Y N

24. Trainee wants a job and seeks assistance in trying to prepare for one. Y N

25. Trainee works with difficulty, even under constant supervision and after getting considerable training. Y N

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WORK REPORT
1966 REVISION

Developer(s)

The Work Report was introduced in 1961 by Roger Morgan of St. Wulstan's Hospital, Malvern, Worchestershire, and revised in 1966 by Morgan and A. J. Cheadle. The revised version was reappraised in 1972.

Purpose

The Work Report is an instrument designed to assess the client's work performance.

Description

The scale contains 16 polarized items which reflect elements of work ability (e.g., grasps instructions quickly - cannot grasp instructions, does complicated tasks - can do only simple jobs). The positive descriptors are labeled A and the negative descriptors are labeled B. It is a five-point scale (i.e., A, inclined to A, midway between A and B, inclined to B, and B). The area investigated by the Work Report is work ability, which consists of several elements (e.g., speed and quality of work, need for and attitude toward supervision, skill with hands and tools, willingness to work and change jobs, etc.).

Use

The scale is designed to be used with psychiatrically disabled clients. The information provided by a series of work reports is beneficial to case managers when working with clients, placing them in suitable employment, and informing prospective employers about their work abilities. It may also be beneficial as an indicator of rehabilitation gain in sheltered workshops, rehabilitation facilities, and other rehabilitation programs.

Administration

The scale can be administered by a variety of persons (e.g., nurses or employers of clients who leave the rehabilitation setting for the day to work). In order to complete the scale, the rater must be able to observe the client's work and make a judgment about his/her performance. The scale can be used to assume the client's work ability with various types of jobs and over any desired time period. Its developers generally use it 3½ weeks after the client enters the program, prior to case conferences, and when the client changes jobs. The time required to complete the scale is approximately three minutes.

Scoring

Each item has a score that can range from 0(A) to 4(B). A total score is derived by summing the scores for each of the sixteen items, and it can range from 0-64. The lower the score, the better the performance.

Reliability

The interrater reliability of the total score was examined as six nurses rated ten patients on the same day. The six

raters produced 15 pairs of ratings that could be correlated. Eleven of these pairs were significant ($p < .05$), but six of these significant correlations indicated that the means of the total scores being compared were found to be significantly different. Additional trials in a different workshop were set up with formal instruction on the use of the form given between the two trials. There was no improvement in the number of precise agreements. Perhaps further instruction and experience would improve this situation.

An examination of the interrater reliability of individual items on the form found 45% total agreement by all of the raters on all of the patients' ratings. Agreements to within one point on the five-point scale increased this figure to 93%.

Validity

Concurrent validity was examined by correlating inpatients' average pay (based on piecework payments) and work scores for the same time period. Both samples studies ($N = 56$ and $N = 30$) yielded significant correlations (rho = .416, $t = 3.33$, $.01 > p > .001$ and rho = .464, $t = 2.76$, $p < .01$, respectively).

Predictive validity was studied by looking at predischarge work scores in the hospital and subsequent success or failure in open employment. Seventy-eight patients (or 95%) who had been discharged and on whom Work Report ratings had been made prior to discharge were followed-up. "Success" meant that the person had started a job in open employment within four weeks of discharge; was still working six months after discharge, although not necessarily at the same job; and had worked without a break of more than two weeks. A significant association was found between the mean total scores ($p < .05$) and between the mean scores of 5 out of the 16 items. The significant items denoted persistence ($p < .01$), eagerness to work ($p < .02$), welcoming supervision ($p < .05$), initiative ($p < .01$), and getting along well with others ($p < .01$).

Advantages

The Work Report is useful for recording and communicating information about a patient's work performance. The blank reverse of the form is convenient for keeping a daily or weekly running record. The supervisor's awareness of an impending obligation to complete the form tends to focus and sharpen his or her observation. The itemizing of the several factors involved in doing a job serves to educate the inexperienced supervisor and helps him or her to produce a more complete report.

Limitations

This measure has comparatively low interrater reliability.

References

Cheadle, A. J., Cushing, D., Drew, C. D. A., and Morgan, R. The measurement of the work performance of psychiatric patients. British Journal of Psychiatry, 1967, 113, 841-846.

Cheadle, A. J. and Morgan, R. The measurement of work performance of psychiatric patients: A reappraisal. British Journal of Psychiatry, 1972, 120, 437-441.

Availability — The scale and/or additional information can be obtained from ---

Dr. R. Morgan, M.R.C. Psych.
Director of Rehabilitation
St. Wulstan's Hospital
Malvern, Worcestershire WR14 4JS
Great Britain

WORK REPORT

NAME _____ UNIT _____

PERIOD COVERED _____ TO _____

WORK DONE _____

A	A applies	Inclined to A	About mid-way	Inclined to B	B applies	B
1. Does complicated jobs						Can only do simple jobs
2. Grasps instructions quickly						Cannot grasp instructions
3. Works very quickly						Works very slowly
4. Works continuously						Works for short periods only
5. Eager to work						Avoids work
6. Welcomes supervision						Resents supervision
7. Needs no supervision						Needs constant supervision
8. Willing to change jobs						Refuses to change jobs
9. Looks for more work						Waits to be given work
10. Always uses good judgment						Never uses good judgment
11. Excellent standard of work						Bad standard of work
12. Skillful with hands						Clumsy with hands
13. Use tools/equipment well						Cannot use tools/equipment
14. Gets on well with other people						Gets on badly with other people

	A applies	Inclined to A	About mid-way	Inclined to B	B applies	
15. Communicates spontaneously						Does not communicate
16. Never arrives late or leaves early						Alway arrives late and leaves early
TOTAL						GRAND TOTAL (0-64)

REMARKS

Supervisor_____

Date _____

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MEASURES OF INDEPENDENT LIVING SKILLS

BARTHEL INDEX
GRANGER ADAPTATION

Developer(s)

The Barthel Index (originally named the Maryland Disability Index) was developed by F. I. Mahoney and D. W. Barthel in 1965 and modified by Carl V. Granger in the mid 1970's.

Purpose

This scale, a measure of functional limitations, assesses the degree to which a person can function independently in performing activities of daily living (ADL), including self-care, mobility, and bladder and bowel control.

Description

The Index is a behaviorally anchored scale containing 15 items. The areas investigated include the following: feeding, bathing, grooming, dressing, toilet transfers, chair/bed transfers, ambulation, stair climbing, and bladder and bowel control.

Use

The Index is designed for use with physically disabled clients in particular. It was originally developed for use in hospital/rehabilitation settings but has been widely used in other settings, such as state VR agencies.

The Index may be useful to case managers in providing a quick reference that can be used to help indicate general patterns in improved client functioning in personal ADL and the general level of assistance a client needs. It may also be useful in determining the functional prognosis prior to stroke rehabilitation and in studies of cost effectiveness.

Administration

In completing the Index it is necessary to observe or interview the client or else interview professionals working with the client. Minimal professional judgment is needed.

Scoring

The value of each item is based on independence versus need for assistance by the patient in performing an activity. The preferred scoring system consists of four levels of rating on the dependence - independence continuum. (A three-level system can be used when raters are not optimally trained or ratings are completed by telephone or from the records.) The higher the score, the higher the degree of independence. A zero score indicates complete dependence. A total score is calculated by summing the ratings of the 15 items, providing an indication of the severity of the disability. The range of possible scores and the corresponding severity classifications are as follows: 0-20, totally dependent; 21-60, severely dependent; 61-80, moderately dependent; 81-99, slightly dependent; and 100, independent. The Index can be completed by hand and a severity of disability score obtained in approximately five minutes.

Reliability

Three hundred and seven severely disabled adults, former patients at 10 geographically selected comprehensive medical rehabilitation centers, were subjects in a study in which the Barthel Index was administered. Test-retest reliability was .89 and intercoder reliability was above .95.

Validity

The use of the Barthel Index as a functional assessment instrument measuring personal care need was examined in a study of 89 chronically ill patients who were living at home but receiving Basic Care services. On an individual basis, the Barthel score was correlated with the total number of tasks observed that the individual could perform independently. There was a .91 correlation, significant at the .00001 level.

On a group basis, the Barthel score was correlated with the level of support needed to perform each of a number of tasks for the group as a whole. Moderate or strong associations were found for most personal care tasks. Of the 44 tasks that had at least 10 applicable cases, 33 had significance levels of correlation with the Barthel score of $p < .001$ (correlations ranged from .42 to .88). Also, a Barthel score of 60 seemed to be a cutting score; those scoring below 60 were capable of performing no more than 10 tasks in almost every case.

Bivariate relationships among various measures of patient need were determined by a correlation matrix. The Barthel score had a number of statistically significant bivariate relationships: ability to make decisions easily (-.36, $p \leq .001$), ability to fulfill usual and customary roles (-.33, $p \leq .001$), presence of psychological problems (-.25 and-.28, $p \leq .01$), and age (-.26, $p \leq .01$).

Advantages

Used properly, the Index provides a measure of the client's level of independence in personal ADL. A second advantage is that it can be completed quickly.

Limitations

Some of the limitations of the Barthel Index include the following: (1) it defines need for personal care assistance only; (2) it must be supplemented with other assessments for determining eligibility or developing rehabilitation plans; and (3) the evaluation provided does not detail the tasks to be performed in a rehabilitation training program except by the categories that are assessed.

References

Granger Adaptation

Fortinsky, R. H., Granger, C. V., & Seltzer, G. B. The use of functional assessment in understanding home care needs. Medical Care, May, 1981, 19 (5), 489-497.

Granger, C. V., Albrecht, G. L., & Hamilton, B. B. Outcome of comprehensive medical rehabilitation: Measurement by PULSES profile and the Barthel Index. Archives of Physical Medicine and Rehabilitation, April, 1979, 60, 145-154.

Original Version - Mahoney and Barthel

Indices, Inc. Functional limitations: A state-of-the-art review. Falls Church, Virginia: Author, 1978.

Mahoney, F. I. & Barthel, D. W. Functional evaluation: The Barthel Index. Maryland State Medical Journal, 1965, 14, 61-65.

Availability Additional information can be obtained from ---

Carl V. Granger, MD, Director
Brown University/The Memorial Hospital
Institute for Rehabilitation and Restorative Care
Family Care Center
89 Pond Street
Pawtucket, RI 02860

or

Maureen McNamara, Coordinator
Medical Rehabilitation Evaluation
Family Care Center
89 Pond Street
Pawtucket, RI 02860

BARTHEL INDEX

GRANGER ADAPTATION

The following presents the items or tasks scored in the Barthel Index with the corresponding values for independent performance of the tasks:

Independent I Intact	Independent II Limited	Dependent III Helper	Dependent IV Null	
10	5	0	0	Drink from cup/Feed from dish
5	5	3	0	Dress upper body
5	5	2	0	Dress lower body
0	0	-2	0	Don brace or prosthesis
5	5	0	0	Grooming
4	4	0	0	Wash or bathe
10	10	5	0	Bladder continence
10	10	5	0	Bowel continence
4	4	2	0	Care of perineum/clothing at toilet
15	15	7	0	Transfer, chair
6	5	3	0	Transfer, toilet
1	1	0	0	Transfer, tub or shower
15	15	10	0	Walk on level 50 yards or more
10	10	5	0	Up and down stairs for 1 flight or more
15	5	0	0	Wheelchair/50 yds -- Only if not walking

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CALIFORNIA CLIENT GAINS SCALE

Developer(s)

The Research Section of the California Department of Rehabilitation began to develop this measure in 1979 as part of its Independent Living Research Study.

Purpose

This scale is intended as a measure of change in clients served at independent living centers.

Description

This scale consists of 93 items covering demographic and disability information as well as different aspects of a client's life: financial skills, use of leisure and productive time, activities of daily living skills, health skills and use of medical services, social and psychological well-being, and housing. (The housing items were not used in the final analysis due to their poor quality.) A variety of response types are used: multi-point scales, agree/disagree, yes/no, and a few short answer fill-ins.

Use

The measure is designed for use with independent living center clients.

A shortened version of this scale has also been developed. This California Independent Living Survey will be useful as a client outcome measure in various applications with independent living centers. Except for a new housing scale, all of the items were taken from the original form. An item-total correlation analysis was used to reduce the scale from the original form to a more practical 30-item scale, which can be completed in approximately 15 minutes. A pilot study is currently underway.

It has been suggested that the administration of the measure to a rotating, random sample of clients might be the most economical means of outcome assessment for a state VR agency to undertake (as opposed to the longitudinal approach described below in the Administration section). As such it would yield useful data for program planning and evaluation purposes.

Administration

This is a self-administered scale to be completed at intake and at two or more points after the client has been receiving services from a center -- at about six month intervals for perhaps 18 months.

Scoring

Coding values are assigned to each response choice. Positive or negative gain scores can be compiled by skill area or as a composite of all of the skill areas. Difference scores for groups of clients can be summed and averaged. A *t*-test can then be used to determine if a significant change has occurred.

Reliability

A reliability test was conducted from pilot test data gathered in two independent living centers in Southern California. After item analysis was performed to remove ineffective scale items, a Hoyt reliability coefficient of.87 was obtained.

Validity

Two validity studies have been conducted. The first compared the gain scores for clients having achieved independence with those of a sample of independent living center intake clients. The developers report that the results indicate that the scale does measure independence as the word is used in independent living centers.

The second study compared the scores of independent living center clients living in institutions with those of clients living on their own. Again, the developers report significant results in the expected direction.

Advantages

The developers feel that the gains scale may be an alternative to the functional assessment approach, which they feel is not suited for measuring client change in the independent living setting.

Limitations

The scale's length makes it too cumbersome to be useful in ongoing outcome evaluations.

References

Research Section, California Department of Rehabilitation. Independent living research study. Working papers, 1981.

Availability

Additional information on the California Client Gains Scale and the shortened version, the California Independent Living Survey, can be obtained from ---

Gene Hiehle
Research Section
California Department of Rehabilitation
830 K Street Mall
Sacramento, CA 95814

CALIFORNIA CLIENT GAINS SCALE

SECTION D - Your Daily Activities

THE FOLLOWING ITEMS REFER TO YOUR ABILITY TO DO VARIOUS THINGS WHETHER OR NOT YOU USE MECHANICAL AIDS. EVEN IF YOU DON'T ORDINARILY DO THESE THINGS, PLEASE ANSWER EACH QUESTION.

1. Ability to move around the place where I live (CHECK ONLY ONE)

- ☐ I am unable to move around where I live by myself or with help.
- ☐ I can move around with some help, but only to take care of essential needs (example: use of toilet).
- ☐ I can move around inside and outside of where I live with the help of another person.
- ☐ I can move around inside and outside of where I live without the help of another person.

2. Ability to carry out housekeeping work (CHECK ONLY ONE)

- ☐ I can do all housekeeping myself.
- ☐ I can do most housekeeping myself, with some help.
- ☐ I can do a little housekeeping, but only with another person's help.
- ☐ I am largely unable to do any housekeeping.

SECTION F - Your Social Life and Your Feelings About Yourself

5. About how much of the time do you feel down or depressed? (CHECK ONLY ONE)

- ☐ Very often
- ☐ Often
- ☐ Sometimes
- ☐ Seldom

6. Please check all of the following activities that you take part in regularly.

- ☐ Reading - magazines, books, newspapers, etc.
- ☐ Hobbies - stamp collecting, model building, coin collecting, inventing, repair work for amusement, photography, etc.
- ☐ Crafts - sewing, leatherwork, woodwork, refinishing furniture, etc.
- ☐ Arts - playing music, acting, drawing, painting, creative writing, etc.
- ☐ Games - chess, cards, backgammon, etc.
- ☐ Outdoor Activities - fishing, hunting, camping, rafting, hiking, etc.
- ☐ Physical Activities - swimming, basketball, bowling, racing, dancing, etc.
- ☐ Other activities (describe) _____

_____

_____

PLEASE INDICATE HOW MUCH YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS BY CHECKING ONE OF THE BOXES TO THE RIGHT OF EACH STATEMENT.

	Strongly agree	Agree somewhat	Uncertain	Disagree somewhat	Strongly disagree
7. I take good care of myself physically.	☐	☐	☐	☐	☐
8. I am satisfied to be just what I am.	☐	☐	☐	☐	☐
9. I solve my problems easily.	☐	☐	☐	☐	☐
10. I am as sociable as I want to be.	☐	☐	☐	☐	☐
11. I am not the person I want to be.	☐	☐	☐	☐	☐
12. I have one or more abilities in which I believe I am better than other people.	☐	☐	☐	☐	☐

Strongly agree | Agree somewhat | Uncertain | Disagree somewhat | Strongly disagree

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FUNCTIONAL ASSESSMENT PROFILE (FAP)

Developer(s)

The FAP was developed by an intra-agency task force within the Massachusetts Rehabilitation Commission in 1976.

Purpose

The FAP is a guide to the identification of a client's functional assets and liabilities in the rehabilitation process for use in clinical problem solving; it is not intended to be a rating scale.

Description

Ten functional areas related to the performance of work and activities of daily living are assessed through the following means: open-ended behavior description; degree of limitation (i.e., asset, no limitation, minor limitation, or major limitation); compensation (i.e., fully compensated, partially compensated, no compensation now, or no possible compensation) and open-ended comments. The ten functional areas include problem solving, interpersonal relationships, communication, self-care, object manipulation, mobility, time management, energy reserved, self-direction, and work.

Use

This measure is appropriate for all VR clients. However, because of the time involved in completing the FAP, its use may be limited to particularly difficult cases, cases in Status 24, or transfer cases. Also, it is not necessary to administer the entire FAP to all clients; the most relevant of the ten functional areas may be addressed for a given individual.

The FAP is primarily used by counselors in order to facilitate the rehabilitation process: conducting preliminary diagnostic studies, determining eligibility/severity, evaluating the adequacy of the diagnostic study, developing the Indivdualized Written Rehabilitation Program (IWRP), and providing guidance and counseling. Supervisors would find it useful for case evaluation and team consultation. Vocational evaluators in facilities may also find it useful. It is appropriate as a framework for clinical problem solving and not recommended as a rating tool for program evaluation.

Administration

The FAP is completed by the counselor on the Functional Assessment Profile Grid, although the client and others involved in the client's rehabilitation can play a part as well. A User's Guide is provided that includes instructions, relevant definitions, possible questions to use to obtain necessary information, and several short case studies as examples. The counselor should be trained in behavioral observations and familiar with the definitions and directions in the User's Guide. It is recommended that the counselor review an actual case with a person already trained in the profile's use for greatest ease in utilizing the FAP.

The Massachusetts Rehabilitation Commission conducted a training program for vocational rehabilitation counselors using

the FAP. The purpose was to instruct the counselors in the use of the FAP for assessing client functioning and the incorporation of this information into rehabilitation planning with the IWRP. A Trainer's Guide, based on this program, is available for those who are interested in conducting their own training.

Assessments can be made through the rehabilitation process in order to monitor progress toward the client's goal. Administration time can vary from a few minutes to three hours depending on the application of the profile. A quick screening of a case for information requirements or the assessment of one functional area can take about 10-20 minutes. However, sorting out all of the information acquired through a thorough diagnostic study into functional capacities and limitations and planning for the IWRP can take up to three hours.

Scoring — Since the profile is not a rating scale or a test, there is no scoring procedure.

Reliability — There is no evidence of reliability. Plans for such studies were discarded when the developers ascertained that it was best utilized as a framework for clinical problem solving rather than a rating instrument.

Validity — There is no evidence of validity. Plans for such studies were discarded when the developers ascertained that it was best utilized as a framework for clinical problem solving rather than as a rating instrument.

Advantages — This system of functional assessment is flexible. It allows the counselor to analyze and use the information gathered on a client as it makes sense to him/her. Also, a connection between the assessment of the client and planning for treatment is established through the compensation section.

Limitations — First, the assessment itself cannot be any better than the clinical skills of the counselor doing the assessment. Second, use of the profile demands comfort in expressing medical concepts in behavioral terms. Third, the profile is only useful as a clinical tool and not for program evaluation or statistical comparison.

References

Langton, M. S. Final report: National short-term training project on the functional assessment profile (RSA Training Grant No. 45-P-81552/1-01). Boston: Massachusetts Rehabilitation Commission, October, 1980.

Marsh, S. K., Konar, V., Langton, M. S., and LaRue. A. J. The functional assessment profile: A rehabilitation model. Journal of Applied Rehabilitation Counseling, Fall 1980, 11 (3), 140-144.

Availability — The FAP, including the User's Guide and the Trainer's Guide, can be obtained by contacting ---

Staff Development Unit
Massachusetts Rehabilitation Commission
20 Providence Street
Boston, MA 02116

FUNCTIONAL ASSESSMENT PROFILE GRID

FUNCTIONAL AREA	DESCRIPTION	DEGREE OF LIMITATION: ASSET	NO LIMITATION	MINOR LIMITATION	MAJOR LIMITATION	COMPENSATION: COMPENSATED FULLY	COMPENSATED PARTIALLY	NO COMPENSATION NOW	NO POSSIBLE COMPENSATION	COMMENTS OR COMPENSATION TO BE CONSIDERED
1. PROBLEM SOLVING										
2. INTERPERSONAL RELATIONSHIPS										
3. COMMUNICATION										
4. SELF CARE										
5. OBJECT MANIPULATION										
6. MOBILITY										
7. TIME MANAGEMENT										
8. ENERGY RESERVES										
9. SELF DIRECTION										
10. WORK										

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FUNCTIONAL CAPACITY AREAS (FCA)

Developer(s)

The FCA was developed by Horace Sawyer while serving as a consultant to the Knoxville Area Comprehensive Rehabilitation Consortium, Inc. (KACRC). The FCA was completed in 1976 and has been used in the seven agencies which constitute the KACRC.

Purpose

The FCA was designed as a measure of change in client functioning as the severely handicapped individual proceeds through the rehabilitation process.

Description

The FCA is an array of observable qualities or traits of handicapped clients referred to as "functional skills." It takes the form of a continuum of these functional skills grouped into categories called "strands." Each strand begins with the most primary skill and progresses developmentally toward more complex skills. The strands end with advanced functional skills which closely approximate what society considers "appropriate" or usual adult skills for specific situations.

A total of 39 strands are grouped into the following nine skill areas: basic skills, physical capacity, social skills, speech skills, community skills, education skills, vocational skills, deaf skills, and blind skills. The number of strands in each skill area varies from two to nine. The number of skills, or items, in each strand also varies -- from 20 to 51. An example, the reading strand in the educational skill area, is offered to illustrate the progressive developmental nature of the strands. The initial item of the reading strand is "looks at pictures in book," item 13 is "reads primer to self aloud," and item 38 is "follows written instructions in sequence to complete an activity."

Use

The FCA was designed to assess severely handicapped individuals (i.e., mentally, behaviorally, and/or physically handicapped young or older adults). It is applicable in a variety of rehabilitation settings (e.g., rehabilitation facilities, state-federal VRS, sheltered workshops, work adjustment programs).

Throughout the FCA's development, an effort was made to facilitate an unstructured format so that the FCA would be useful to practitioners in various settings. It can be used by case managers to identify client deficiencies and plan individualized programs of services. It can also be used by case managers and other rehabilitation personnel to assess changes in the client's functioning so as to modify the client's rehabilitation program when needed. Program managers are able to track the progress of clients, thereby providing an indication of program effectiveness.

Administration

Completion of the FCA requires observation and judgment, but it can be completed by anyone who is working with the client. It can be administered during evaluation and used periodically to reassess the client throughout the rehabilitation process. The administration time of the instrument depends on the number of strands that are being applied to the individual.

Scoring

Scores, per se, are not calculated; however, an FCA Profile and an FCA Manual can be developed. On the FCA Profile, the 39 strands (e.g., reading, interpersonal relations, sex education, work behavior I, job placement) are arranged vertically, and the skills (e.g., "looks at pictures," "reads simple three letter words") are arranged developmentally and horizontally. This ordering permits a two-dimensional display of the client's development. The two-dimensional FCA Profile provides a perspective of skills which helps the trainer see interactions and thus determine realistic and comprehensive objectives for the client, as well as reflect the current functional capacity level of the individual.

The FCA Manual, the second format, is used to determine functional baselines and guidelines. During evaluation, the FCA Manual is used to determine a baseline functional capacity level on one or more strands. After evaluation, the Manual is used as a guideline for adjustment services. Each strand is one or more pages in the Manual and a data form serves as a worksheet to record observations of one client in one strand.

The suggested measurement codes for each skill in the FCA consist of seven alternatives that indicate the degree of problem or asset that the client's functioning on that skill presents.

Reliability

The reliability of the FCA has not been determined.

Validity

The FCA has not been validated.

Advantages

A major advantage of the FCA is in its use as an aid in integrating services: It provides a common basis to assist various professionals in identifying strengths and weaknesses of the multiply handicapped who often have not been served, and it focuses on individual client needs, yet provides a technique to research accountable service delivery to severely handicapped clients.

Limitations

The primary limitation of the FCA involves a lack of field testing to evaluate fully the feasibility of applying the measure to various rehabilitation settings.

References

Sawyer, H. W. Functional capacity areas: Assessment, training, and accountability. Knoxville, Tennessee: Knoxville Area Comprehensive Rehabilitation Consortium, Inc.

Availability The FCA can be obtained from ---

Materials Development Center
Stout Vocational Rehabilitation Institute
University of Wisconsin - Stout
Menomonie, WI 54751

SAMPLE ITEMS

FUNCTIONAL CAPACITY AREAS

IMPULSE CONTROL

Overall Goal: Able to maintain self-control; plans and considers actions before carrying them out.

1. Sits quietly for more than one minute when group is attending to film, filmstrips, verbal instructions, etc.
2. Takes turns in activity 25% of time or less.
3. Changes activity without emotional outbursts when change cue is well defined (verbal, etc.).
4. Changes routine without emotional outbursts when alternatives are presented.
5. Sits quietly for more than five minutes when group is attending to film, filmstrips, verbal instructions, etc.
6. Quiets down after active period if reminded frequently.
7. Takes turns in activity 25-50% of time.
8. Withdraws or becomes verbally aggressive for short periods when scolded, criticized, teased.
9. Seeks attention appropriately by addressing others by name, not constantly interrupting, etc.
10. Accepts change in routine without emotional outbursts when reasons are explained.
11. Sits quietly for more than ten minutes when group is attending to film, filmstrips, verbal instructions, etc.
12. Takes turns in activity 50-75% of time.
13. Attends to activity appropriately for 75% or more of time.
14. Quiets down immediately after active period and awaits instructions.
15. Controls physical responses when angered.
16. Changes activity without emotional outburst when change is announced.
17. Displays affective behavior (e.g., laughing, crying) appropriate for situation/place.

18. Acts according to social rules in community and home activity situations. Displays a minimum of crying, acting out and/or gloating.

19. Avoids disruptive actions in public places.

20. Controls temper well: verbalizes feelings in an acceptable manner.

21. Accepts friendly teasing - smiles or laughs.

22. Participates in activity without interfering with or disrupting others.

23. Recognizes own lack of self-control and works with others to improve self.

24. Plans/considers actions before carrying it out.

25. Maintains self-control when faced with failure, problems, disappointments.

26. Able to maintain self-control; plans and considers actions before carrying them out.

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FUNCTIONAL LIFE SCALE (FLS)

Developer(s)

The FLS was developed by John E. Sarno, Martha T. Sarno, and Eric Levita at the Institute of Rehabilitation Medicine of the New York University Medical Center in 1973.

Purpose

The FLS is designed to provide a quantitative measure of an individual's ability to participate in basic activities common to most people. It focuses on functions actually performed rather than on the capacity to perform or the elements which constitute performance. It can be used to assess disability, or functional limitations, and to measure client change as a result of participation in rehabilitation programs.

Description

The FLS contains 44 items designed to assess five categories: cognition, activities of daily living (ADL), activities in the home, outside activities, and social interaction, which includes vocational status. The four qualities of self-initiation, frequency, speed, and overall efficiency are rated for each item where appropriate. For each of these qualities, each item is rated along a five-point scale designed as follows: 0, does not perform activity at all; 1, very poorly; 2, deficient; 3, approaches normal; and 4, normal.

Use

The FLS is designed for use with all disabled clients who are in their homes and the community. The ultimate concern is how the client functions in the real world. Therefore, it is inappropriate in artificial or limited settings, such as hospitals, rehabilitation facilities, etc.

The FLS is useful to both case managers and program managers. It provides case managers an indication of the client's functioning and may be useful in identifying problem areas and needed services. The FLS provides program managers an indication of the severity of the disabilities of the client population which is useful in program planning. Change scores alert program managers and case managers of the success or failure of their programs. Since inappropriate items can be omitted, the flexibility of the FLS is increased.

The FLS may be useful as an educational aid with physicians-in-training. It may also be useful in research designed to estimate the influences of specific physical, psychological, or social factors upon the rehabilitation process.

Administration

The FLS requires a combination of self-report and professional judgment. It can be administered prior to, during, and/or following the rehabilitation process. Raters must be trained to make accurate judgments, but it is not necessary that the raters be physicians since medical judgment is not required.

Scoring

Total scores for each item are calculated by summing the quality ratings for that item. It is the total score for each item that is important because it defines what the client actually does. Since the same score can be achieved for various reasons, total scores for the various qualities can be used to determine the contribution of such factors as motivation and speed. Scores for a given category (e.g., cognition, ADL, etc.) are taken as a proportion of the possible maximum score, after adjustment for items that are not applicable.

Reliability

Twenty-five patients were rated by 11 staff members. Each patient interview was videotaped. Using the videotapes, each staff member in the study rated each patient twice, with an interval of two to three weeks between ratings. The following scores were statistically analyzed: overall scores, total scores for self-initiation, frequency, speed, and overall efficiency. Test-retest reliability was assessed through the Pearson product moment coefficient of correlation. The r values for each of the raters for self-initiation scores, .90; frequency scores, .90; speed scores, .90; overall efficiency scores, .88; and overall scores, .91, were all significant beyond the .001 level, establishing the stability of the ratings over time.

To determine interrater reliability the total scores of all raters obtained for all patients were compared and correlation coefficients derived. Once again, all r values were significant beyond the .001 level. These results suggest that workers from a variety of disciplines, with minimal indoctrination, can use the FLS with a satisfactory degree of agreement between raters and over time. The r values were as follows: self-initiation scores, .90; frequency scores, .90; speed scores, .88; overall efficiency scores, .88; and overall scores, .91.

Internal consistency was analyzed by means of a series of Pearson product moment correlations. These were derived across all patients for each rater, across all raters, and across all category subscores and total scores. The same procedure was used to determine the degree of relationship between the quality scores as well as between total and subcategory scores (e.g., cognition, ADL, etc.). All of the coefficients of correlation reached significance beyond the .001 level.

Validity

Concurrent validity of the FLS was estimated by comparing FLS ratings with the external and independent "clinical judgment" of a physiatrist. The physiatrist ranked 31 patients on a nine-point scale after completing clinical examinations. Comparisons between clinical evaluation and FLS ratings using the Spearman rank order correlation yielded a value of .69, $p < .001$ on the basis of a two-tailed test.

The results show a relatively high degree of congruence between ratings on the FLS and independent clinical estimates by a physiatrist.

Advantages

A major advantage of the FLS is that it provides a quantitative measure of a very nebulous but important clinical dimension. It focuses on actual functioning rather than on the abilities to function. This approach avoids the discrepancies often found between ability and behavior, which are sometimes influenced by the interactive influence of physical, psychological, social, economic, and cultural factors.

Limitations

The FLS requires further standardization and the derivation of norms on larger populations and different types of disabled persons (i.e., those with Multiple Sclerosis, Parkinson's Disease, Epilepsy).

References

Sarno, J. E., Sarno, M. T., and Levita, E. The functional life scale. Archives of Physical Medicine and Rehabilitation, 1973, 54(3), 214-220.

Availability

The FLS can be obtained from ---

John E. Sarno, M.D.
Institute of Rehabilitation Medicine
400 East 34th Street
New York, NY 10016

THE FUNCTIONAL LIFE SCALE

	Not applicable	Self-initiation	Frequency	Speed	Overall efficiency	Total
COGNITION						
1. Is oriented for time (e.g. hour, day, week)						
2. Uses "yes" and "no" appropriately						
3. Understands speech (e.g., simple commands, directions, television)						
4. Calculates change (money)						
5. Does higher calculation (balance checkbook, etc)						
6. Uses appropriate gestures in lieu of speech (not applicable for patients with speech impairment)						
7. Uses speech for communication						
8. Reads (e.g., street signs, ability to follow written instructions, books)						
9. Writes (e.g., signs name, writes or types letters) (include motor disability)						
10. Social behavior is appropriate						
11. Able to shift from one task to another with relative ease and speed						
12. Aware of self (e.g., of mistakes, inappropriate behavior, poor judgment, etc.)						
13. Attempts to correct own errors (e.g., of judgments, mistakes)						
14. Has good memory (e.g., names of people, recent events)						
ACTIVITIES OF DAILY LIVING						
15. Able to get about (with or without brace, wheelchair, etc.)						
16. Does transfers						

	Not applicable	Self-initiation	Frequency	Speed	Overall efficiency	Total
17. Feeds self						
18. Uses toilet						
19. Grooms self (e.g., wash, brush teeth, shave)						
20. Dresses self						
21. Bathes self (including getting in and out of tub or stall)						
HOME ACTIVITIES 22. Prepares simple food or drink (e.g., snacks, light breakfast)						
23. Performs light housekeeping chores (e.g., meals, dishes, dusting)						
24. Performs heavy housekeeping chores (e.g., floor or window washing)						
25. Performs odd jobs in or around the house (e.g., gardening, electrical, auto, mending, sewing)						
26. Engages in solo pleasure activities, (e.g., puzzles, painting, reading, stamps)						
27. Uses telephone (e.g., dialing, handling. Do not rate speech proficiency.)						
28. Uses telephone set (e.g., changing channel)						
29. Uses record player or tape recorder						
OUTSIDE ACTIVITIES 30. Engages in simple pleasure activities (e.g., walk, car rides)						
31. Goes shopping for food						
32. Does general shopping (e.g., clothes, gifts)						
33. Performs errands (e.g., post-office, cleaner, bank, pick up newspaper)						

	Not applicable	Self-initiation	Frequency	Speed	Overall efficiency	Total
34. Attends spectator events (e.g., theatre, concert, sports, movies)						
35. Uses public transportation accompanied (mass transportation)						
36. Uses public transportation alone (rate NA if 35 is 0)						
37. Takes longer trips accompanied (plane, train, boat, car)						
38. Takes longer trips alone (rate NA if item 37 is 0)						
SOCIAL INTERACTION 39. Participates in games with other people (e.g., cards, chess, checkers)						
40. Participates in home social activities (e.g., family gathering, party, dance)						
41. Attends social functions outside of home (e.g., home of friend, dining at restaurant, dance)						
42. Participates in organizational activities (e.g., religious, union, service club, professional)						
43. Goes to work or school at comparable pre-morbid level (not housekeeping at home) (Do not rate if item 44 is to be rated)						
44. Goes to work or school at lower than pre-morbid level (Do not rate if item 43 has been rated) (Multiply item 43 or 44 by 2)						

Reproduced by permission. Sarno, J. E., Sarno, M. T., and Levita, E. The Functional Life Scale. Archives of Physical Medicine and Rehabilitation, May, 1973, 54, (5), 214-220. Scale developed at the Institute of Rehabilitation Medicine, New York University Medical Center, New York.

FUNCTIONAL SCREENING SCALE

Developer(s) This measure was developed by Sterling I. Colten and Joseph Langlois of the Taunton State Hospital in Taunton, Massachusetts, in 1974.

Purpose The Functional Screening Scale is designed to measure patient adjustment within a structured environment.

Description Patients are rated on 19 items in five categories: personal grooming, social interactions, work behavior, self-responsibility, and verbal behavior. Ratings on each item range from 0-3, with the lowest ratings assigned to patients displaying complete dependence on staff supervision and the highest ratings assigned to patients displaying independence from staff supervision.

Use This measure was created for state hospital use to assist in deciding which individuals would be the most likely candidates for community residences for the chronic population. The measure was designed for use with the psychiatrically disabled. Most patients in the study were schizophrenics and some were diagnosed mentally deficient, associated with psychosis or some form of organic brain syndrome.

Administration The administration of this scale requires the use of professional judgment by the nursing staff. It can be completed in a few minutes. All nursing personnel involved with the individual should rate him/her.

Scoring A total score can be obtained by pooling the scores an individual receives from all of the nursing personnel involved with the individual and then averaging the results. Hence, an individual's final rating would be the mean perception of all nursing staffs involved. The instrument is hand scored.

Reliability The evidence for reliability stemmed from giving the same scale to different nursing shifts. The results were not found to be significantly different. Statistical evidence, however, was not presented in the materials reviewed.

Validity A couple of validation studies were conducted. The first was the determination of correlation with another measure of adjustment. The MACC Behavioral Adjustment Scale was selected as the criterion instrument, as a number of reliability and validity studies involving the adjustment of psychiatric patients had been done on it (Ellsworth, 1971). There was a correlation between scores on the two measures when they were both administered to 110 chronic psychiatric patients by four raters (r = .64, p = .001).

Another validation study examined the Functional Screening Scale as a discriminator between well-adjusted and poorly adjusted patients in a hospital setting. One hundred and four patients were rated. Half had privilege cards, work assignments, and were housed on an open ward. The other half had no special privileges, were housed on a locked ward, and were under continuous supervision. A significant difference (t = 35.47, p = .001) was found between the ratings of the two groups, indicating higher functional adjustment for the privileged group. Therefore, the scale does appear to measure current adjustment among chronic psychiatric patients.

Advantages — The scale is straightforward, easy to complete, and perceived as sensible by ward staff.

Limitations — There is a lack of clarity in interpreting results that were crudely based on where an individual's scores fell between the means of well-adjusted and poorly adjusted patient groups.

References

Colten, S. I. & Langlois, J. Development of a screening scale for programming psychiatric rehabilitation. Psychological Report, 1975, 37, 293-294.

Ellsworth, R. B. The MACC behavioral adjustment scale: Revised 1971 manual. Los Angeles, CA: Western Psychological Services, 1971.

Availability — This scale can be obtained by contacting ---

Joseph Langlois
Principal Psychologist
New Bedford Area Facility
Inpatient Unit Taunton State Hospital
P. O. Box 151
Taunton, MA 02780

FUNCTIONAL SCREENING SCALE

Patient's Name: _____ Age: _____ Sex: M or F
Circle one

Number of Admissions: _____ Date of Last Admission: _____ Length of Hosp. ___ months

Diagnosis: _____

Education: _____ (last grade completed) Marital Status: S M Sep. Div. Wid.

Please make your judgment on each category according to the following standards:

0. This is for patients who make no attempt to initiate and are completely unable to perform the activity as described in each category. They require total assistance from staff.
1. This is for patients who make some attempt to initiate the activity as described by the scale but require supervision and direction from staff for the completion of the activity.
2. This is for patients who totally initiate the activity described and need only minimal supervision from staff for the completion of the activity.
3. This is for patients who are totally able to perform the activity described by the scale and need no assistance from staff.

Your judgments should be based on the long term patterns of behavior of the patient rather than on behavior seen recently which is related to pressures that will pass by.

Personal Grooming

Toilet habits _____
Showering and washing _____
Dental Care _____
Ability to dress oneself _____
Appropriateness of dress _____

Social Interaction

With staff _____
With patient group _____
With one other patient _____
With family members _____
Concern for safety of others _____

Ward Behavior

Assistance with ward work _____
Regard for ward rules _____
Attendance at medication _____

Self-Care

Eating behavior _____
Sleeping habits _____
Ability to handle money _____
Concern for personal safety _____

Verbal Behavior

Willingness to talk with another person _____
What the patient says can be clearly understood _____

Remarks: Any immediate situation that may be affecting the patient's behavior? Medical problem? Psychiatric problem? Or other issue of concern regarding the patient.

Rater's Signature: _____

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FUNCTIONAL STATUS INDEX (FSI)

Developer(s)

The FSI was developed by the Pilot Geriatric Arthritis Project (PGAP) staff, associated with the University of Michigan Medical School, Hospital, and School of Public Health, from 1975-76.

Purpose

The FSI was designed to measure the client's perception of functional status along three dimensions: level of dependence, pain, and difficulty experienced while engaging in 45 different activities of daily living (ADL). Repeated measures can provide an indication of change in functional status, i.e., decrease or increase in dependence, pain, and/or difficulty.

Description

The FSI contains 45 items rated over three dimensions; therefore, as many as 135 specific pieces of data can be generated. Dependence is rated on a five-point scale, while pain and difficulty are rated on four-point scales. The items were originally categorized under three categories: mobility, personal care, and work. Factor analysis identified five clusters of functional activities common to the three dimensions: gross mobility, home chores, hand activity, personal care, and interpersonal.

Use

The FSI was designed to be used with ambulatory non-institutionalized individuals experiencing degenerative arthritis or rheumatism. Moderate changes were deemed necessary in adapting it for use with people with end stage renal disease ("weakness" was judged as preferable to "difficulty" with that group).

The FSI is intended for program planning and program evaluation with non-institutionalized clients with arthritis. At this time, it seems to have limited utility in the state-federal rehabilitation agency. Should the instrument be found useful in evaluating individuals experiencing other disabling conditions and/or the time required to administer it reduced, the FSI would become an invaluable tool in the state-federal rehabilitation setting.

A shorter, factored version of the FSI was developed from 1978-1979. Three forms of response were studied: multiple choice, a 7-point Q-sort, and a 12-point ladder scale. Moderate reliability was observed and some concurrent validity established (Jette, 1979, 1980b).

Administration

The FSI was administered via self-report to an interviewer; client self-report questionnaires might be possible with some populations. During the PGAP Project, it was administered repeatedly at three-month intervals. Some training is required to administer and interpret the instrument. The FSI can be completed in one to one and a half hours using a trained interviewer. It is anticipated that a factored version of the FSI will be administered in approximately twenty minutes.

Scoring

Functional dependence is assessed by asking clients to describe the assistance required to perform each ADL over the previous two-week period. Scores are assigned as follows: 0 = independent, 1 = uses mechanical assistance, 2 = uses human assistance, 3 = uses both mechanical and human assistance, and 4 = cannot perform activity even with maximum assistance. Scores for the degree of pain or difficulty are assigned on a four-point scale as follows: 1 = no pain/difficulty, 2 = mild pain/difficulty, 3 = moderate pain/difficulty, and 4 = severe pain/difficulty. Overall scores for dependence, pain, and difficulty are the average scores for all relevant ADL. A fourth score includes an overall average called "status."

Reliability

Interobserver reliability of the original FSI was assessed using nine interviewers and 19 clients. A total of 55 independent assessments were completed: 17 clients were assessed by three independent interviewers and two clients were assessed by two independent interviewers. All clients were assessed on the same day to eliminate variations in the functional status due to fluctuations in disease activity. The following statements highlighted the findings: (1) Overall concordance for dependence ratings between interviewers using the PGAP instrument is 85%. (2) Agreement ratios between interviewers for degree of difficulty and pain in performing activities are lower than those in the dependence dimension. The highest degree of concordance attained in any of the "mobility" category items for difficulty was 68%; three of the mobility items demonstrated less than a 50% concordance rate. Concordance for degree of difficulty on personal care items yielded a higher rate of agreement with three items attaining 90% concordance or more. (3) Reliability ratings of pain on function are intermediate between dependence and difficulty. They range from .49 to .97. (4) The data also suggest that as the degrees of difficulty, pain, and dependence increase, the reliability of the ratings decreases. This trend was observed with each of the three categories of functional activities (i.e., personal care, work, and mobility items).

Validity

Concurrent validity of the FSI was investigated by comparing FSI scores with the following measures of functional status: (1) clients' overall rating of the condition of their joints; (2) clients' overall rating of their ability to deal with their arthritis and the problems it causes; (3) clients'

report of the number of "good days" that they have had in the last seven; (4) the client's service coordinator's rating of the client's condition; (5) the coordinator's rating of the client's ability to deal with his/her arthritis and related problems; and (6) two "objective" measures, morning stiffness and grip strength.

A total of 213 concurrent assessments were analyzed; 95 clients participated at entry to the PGAP Program, 64 of these clients participated in the three-month follow-up interview, and 54 participated in the six-month follow-up. The most direct comparison is the comparison between the instrument scores and clients' overall assessment of joint status. The direction and magnitude of the relationship ranges from .24 to .48 at entry, three-month and six-month follow-up interviews, and overall; all correlations are significantly greater than zero ($p < .05$).

In a second comparison, there is a statistically significant correlation between each instrument score and client assessment of ability to deal with arthritis when all observations are analyzed together. While these two measures were not related at intake into PGAP, they showed a consistent positive relationship at three- and six-month follow-ups.

The third comparison measure used was the clients' report of the number of "good days" in the preceding week. The degree of correlation between the criterion and the instrument scores is positive and of moderate magnitude for difficulty, pain, and overall status. However, it is not statistically significant for dependence. The correlations yielded were .14, dependence; .41, difficulty; .46, pain; and .40, overall status. The developers feel that this suggests that for older people with arthritis, pain and difficulty of function are more significant in their minds to a "good day" than is independence of function.

The correlations between professional assessment of client joint status and instrument scores are low (ranging from -.14 to .30) and only in three of twenty cases is the relationship statistically significant. The observed correlation between professional assessment of "ability to deal" and instrument scores is essentially zero, as are correlations between instrument scores and the "objective" measures.

Advantages

The instrument measures unique aspects of the quality of life of persons with arthritis (i.e., level of pain and difficulty) as well as the more traditional aspect of dependence. Also, the instrument is quite reliable when administered via interviews with trained volunteers,

professional interviewers, or clinical personnel, and the reliability may be further increased by more specific instructions to interviewers.

Limitations

First, the instrument is less reliable when used to score clients with greater degrees of dependence, difficulty, or pain. Second, time required to administer the instrument is prohibitive in many settings. Third, the extent to which the FSI is useful in assessing the health of populations with different chronic disabling conditions remains to be tested.

References

Original FSI

Deniston, O. L. & Jette, A. M. A functional status instrument: Validation in an elderly population. Health Services Research, Spring, 1980, 21-34.

Jette, A. M. An empirical approach to evaluating functional capacity. Archives of Physical Medicine and Rehabilitation, 1980, 61 (2), 85-89. (a)

Jette, A. M. & Deniston, O. L. Interobserver reliability of a functional status assessment instrument. Journal of Chronic Disease, 1980, 31, 573-580.

Factored FSI

Jette, A. M. Functional status index: Reliability of a chronic disease evaluation instrument. Archives of Physical Medicine and Rehabilitation, 1980, 61 (9), 395-401. (b)

Jette, A. M. Quality of subjective measures of the health of non-institutionalized adults with rheumatoid arthritis (Doctoral dissertation, University of Michigan, 1979). (University Microfilms No. 79-25166).

Availability

The original FSI and information regarding its validity and reliability are available from O. L. Deniston, while information about factor analysis of the FSI and the factored FSI is available from A. M. Jette. Their addresses are as follows:

O. L. Deniston
Associate Professor
Dept. of Health Planning
and Administration
M4142 School of Public
Health II
The University of Michigan
Ann Arbor, MI 48109

Alan M. Jette
Dept. of Social Medicine and
Health Planning
Harvard Medical School
643 Huntington Avenue
Boston, MA 02115

FUNCTIONAL STATUS INDEX

Code: Function
0 - independent
1 - uses equipment only
2 - human assistance only
3 - both equipment and human assistance
4 - can not do
5 - bed fast
8 - not asked, not answered
9 - not applicable

Code: Difficulty and Ache/Pain
0 - none
1 - mild
2 - moderate
3 - severe
4 - can not do
8 - not asked
9 - not applicable

FUNCTION	FUNCTION	DIFFICULTY	ACHE/PAIN	CIRCLE WHICH EQUIPMENT/ASSISTANCE USED	COMMENTS
Walking				Cane Walker Crutches Wheelchair	How far: Yard only Few blocks More
inside					
outside					
Stairclimbing					
stairs in/to home				Handrails	
other stairs					
curbs					
Transferring					
bed					
chair				Bathes in: tub-shower-chair	
car					
toilet				Handrail	Toilet too low? Yes No
bath				Non-slip surface	
Bathing					
ability to wash all areas					
turn faucets					
teeth care					
shaving					
Hair care					
combing					
washing					
setting					
Dressing including					
shoes & tying					Fasteners: Front Back
hose/pants					
underclothes					
shirt/blouse					
buttoning/zippers					
sweater/coat					

Code: Function
0 - independent
1 - uses equipment only
2 - human assistance only
3 - both equipment and human assistance
4 - can not do
5 - bed fast
8 - not asked, not answered
9 - not applicable

Code: Difficulty and Ache/Pain
0 - none
1 - mild
2 - moderate
3 - severe
4 - can not do
8 - not asked
9 - not applicable

FUNCTION	FUNCTION	DIFFICULTY	ACHE/PAIN	EQUIPMENT ASSISTANCE USED	COMMENTS
Mobility driving--other transportation					
shopping					
Communication phone					
writing					
Employment/Occupation					
Cooking stove/oven/refrigerator					
sink/faucets					
cupboards (high/low)					
lifting pots/pans					
peeling/cutting					
opening containers					
Housecleaning laundry					
sweeping/mopping					
bedmaking					
dishes					
bathroom					
windows					
Home/Yard maintenance repairs					
yardwork					
Eating/Feeding cutting					Eats: Alone, With: _____
drinking					

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HUMAN SERVICE SCALE

Developer(s)

This scale was developed by Shlomo Kravetz, Kenneth W. Reagles, Alfred J. Butler, and George N. Wright at the University of Wisconsin Regional Rehabilitation Research Institute in 1973.

Purpose

The Human Service Scale is designed to assess change experienced by clients served through the various human service agencies.

Description

The scale consists of 80 multiple-choice items which address a client's status on seven scales, based on Maslow's hierarchy of basic human needs: physiological need, emotional-security need, economic-security need, family need, social need, economic self-esteem need, and vocational self-actualization need. It is assumed that client progress is based on the extent to which needs are satisfied in accordance with Maslow's hierarchy. Items deal with self-activities, concerns, health, and job. Additional demographic information is gathered as well for identification and norming purposes.

Use

This measure can be used with a wide variety of clients in various human service agency settings. It has been used in rehabilitation agencies, VA hospitals, vocational education programs, mental health clinics, social service agencies, and several research and development projects dealing with alcoholics, drug abusers, and delinquents. Certain client groups may have problems completing the measure without assistance (i.e., clients who are visually impaired, have severe motor difficulties, or have problems reading at the fifth grade level).

This measure is both diagnostic and evaluative in nature. As a sampling of a broad range of potential client problems in a number of life areas, it can be used diagnostically by counselors and others involved in the rehabilitation process to identify problem areas and plan services more efficiently. It may be helpful in deciding who might benefit from psychological, social, and other special evaluations, and it provides a starting point in the counseling process. As an evaluation tool the measure can be useful at the counselor level as a feedback mechanism. With even the subscale scores yielding sensitive measures of client change, it is also promising as an outcome criterion measure for program evaluators. It may be seen as a measure of severity of the disability (i.e., more needs unmet = more severity = more needed services).

Administration

After some brief instructions the client should be able to complete the scale, which is printed on a machine-scorable answer sheet. It takes about 25-30 minutes for the typical client to complete. A clerical person can be instructed to complete the essential demographic data. The measure has been successfully administered by mail, but the nature of the client population

would determine the feasibility of doing so. The instrument should be administered as part of a diagnostic evaluation, at closure (or annually for long-term clients), and at follow-up (6-12 months after services have been terminated).

Scoring

Response choices for each item are weighted to enhance the internal consistency of the measure. The weights were determined by reciprocal averaging. The scale is machine scored.

Scoring services are provided by the University of Wisconsin. (See Availability section for address.) A computer profile of each client is provided, along with a diagram with which the client's status may be presented graphically.

The norms are continually updated. The normative group currently consists of several thousand human service clients. Normative profiles may be generated by any combination of demographic variables included on the first page of the machine-scorable form.

Reliability

Based on a sample of 1,018 persons who had been accepted for rehabilitation services by state-federal VR agencies in 29 states and the territory of Guam but who had not yet received services, Hoyt reliability produced by RAVE analysis was found to be .93 on the total scale and ranged from .69 to .97 on the subscales. The reliability of the residual change scores, based on a group of 105 alcoholic clients completing the scale at intake and again six to ten months later, was determined for each subscale with results ranging form .55 to .97.

Validity

Thirty-two rehabilitation counselors were asked to rate the degree to which each of the original 150 items, from which the 80-item scale was taken, was related to each of Maslow's five categories of basic human needs, as defined by the scale developers. This step toward content validation produced an interrater coefficient of concordance of .91.

Further validation work was done by examining the residual change scores of different groups (i.e., clients closed unsuccessfully, those still receiving services, and those closed successfully rehabilitated). The clients consisted of 105 alcoholics involved in a rehabilitation project who completed the scale at intake and again six to ten months later (see Reliability section above). Six of the eight subscales demonstrated significant change ($\alpha = .05$), indicating that the measure is sensitive enough to discriminate between those clients who successfully completed the VR process and those either still in-process or closed unsuccessfully rehabilitated.

Advantages

This scale has an underlying theoretical rationale based on Maslow's basic needs. It expands the areas covered to include

those not directly vocational in nature but important to rehabilitation and influenced by VR nonetheless.

In addition to having subscale scores that are sensitive to client change, it is quick and easy to administer, requires little in-service training of personnel, and is machine scorable.

Limitations

Because the data are based on client report, distortions may result.

References

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Reagles, K. W., & Butler, A. Human service scale: A new measure for evaluation. Journal of Rehabilitation, 1976, 42(3), 34-38.

University of Wisconsin Rehabilitation Research Institute. Background information of the construction and validation of the human service scale. Unpublished manuscript.

Wright, G. N. Letter announcing the availability of the human service scale.

Availability

The machine-scorable answer sheets (which include the actual scale items) and information on the computer scoring services that are available can be obtained from ---

George N. Wright
University of Wisconsin
1500 Highland Avenue
Madison, WI 53706

HUMAN SERVICE SCALE

6. How often are you uncertain about decisions you make?

(A) very often (D) sometimes
(B) often (E) hardly ever
(C) as often as not

9. How often do you have trouble showing your feelings to your family?

(A) very often (D) sometimes
(B) often (E) hardly ever
(C) as often as not

10. How often are you bothered by shortness of breath when not exercising?

(A) very often (D) sometimes
(B) often (E) hardly ever
(C) as often as not

31. How often do you feel dizzy?

(A) very often (D) sometimes
(B) often (E) hardly ever
(C) as often as not

32. Generally speaking, how often do you talk to your family about what went on during the day?

(A) very often (D) sometimes
(B) often (E) hardly ever
(C) as often as not

43. Read the list of clubs and organizations to which people may belong.

1. any parent-teachers group
2. church-connected groups (usher's club, ladies Aid, etc.)
3. fraternal lodge or auxiliary
4. neighborhood clubs, community center (including YWCA, YMCA)
5. card clubs or social clubs
6. veteran's association
7. service club (Rotary, Lions, etc.)
8. civic organizations (participation in charity drives, Red Cross, etc.)
9. sports team
10. participation in political activities, a political club or party

43. (cont.) How many of the above organizations do you take an active part in?

(A) none of them
(B) 1 or 2 of them
(C) 3 or 4 of them
(D) 5 or 6 of them
(E) 7 or more of them

56. How many weeks during the last six months were you unemployed?

(A) none
(B) 1-8 weeks
(C) 9-16 weeks
(D) 17-24 weeks
(E) 24 or more weeks

60. Which of the following statements best describes your present financial situation?

(A) very good
(B) good
(C) average
(D) poor
(E) very poor

If employed -

64. How often does your present work let you make decisions on your own?

(A) very often
(B) often
(C) as often as not
(D) sometimes
(E) hardly ever

65. How often does your present work give you enough to do?

(A) very often
(B) often
(C) as often as not
(D) sometimes
(E) hardly ever

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INDEPENDENT LIVING CHECKLIST (ILBC)
EXPERIMENTAL EDITION

Developer(s)

The ILBC was developed by Richard T. Walls, Thomas Zane, and John E. Thvedt at the West Virginia Rehabilitation Research and Training Center and copyrighted in 1979.

Purpose

The ILBC provides a measure of objective skills relevant to independent living by defining the degree to which a client or trainee, using whatever adaptive devices required, can function without constant aid and/or supervision.

Description

The ILBC is a list of 343 independent living skill objectives specified in terms of conditions of performance, specific behavior, and standards of performance. The objectives assess skills in the following six categories: mobility skills, self-care skills, home maintenance and safety skills, food skills, social and communication skills, and functional academic skills.

Use

The ILBC is useful for any client whose independent living skills need to be identified and/or developed. Specific client groups might include mentally retarded, blind, quadraplegics, clients institutionalized for long periods of time, severely disabled, etc. The ILBC can be used in a variety of settings, such as sheltered workshops, rehabilitation facilities, educational/training programs.

The ILBC is valuable to various professionals associated with the rehabilitation and/or training of independent living clients. Counselors preparing Individualized Written Rehabilitation Plans (IWRP's) will find that the ILBC provides a means of setting goals and evaluating the client's progress. It defines independent living skills clearly, specifies a broad range of skills applicable to a variety of necessary activities of daily living, and sets clear standards for mastery of skills. Program managers and program evaluation specialists will find skill objectives specified in terms of conditions, behavior, and standards permit documentation of client or trainee progress as well as a measure of the effectiveness of services and/or training. Additionally, the ILBC provides them a means of setting goals, determining accountability, documenting legislative requirements, and outlining an objectively specified curriculum for independent living skills. The flexibility of this instrument is heightened in that only skill objectives deemed relevant need to be used and additional skill objectives can be developed as needed.

The ILBC is equally valuable to other professionals. Teachers responsible for developing Individualized Education Plans (IEP's) can use the ILBC to set goals and evaluate progress.

Cottage or group home parents/supervisors will find specification of a broad range of adaptive skills applicable to a wide variety of living environments. Administrators of independent training programs will find an objective means for developing accountability, cost effectiveness, staffing patterns, state plans, and funding applications.

Administration

The use of the ILBC requires professional judgment, but paraprofessionals may easily be trained. The ILBC can be administered as often as necessary to maintain an accurate view of the client's competence. In some instances a single assessment of skill objectives may be sufficient, but in other cases a periodic assessment of client or trainee skills is desirable. Administration is achieved by observing the client; the time necessary varies depending on the number of objectives deemed appropriate for the individual client.

Scoring

A Skill Summary Chart and a Skill Objective Profile are developed. The Skill Summary Chart is used as an overall record of all the skill objectives achieved by the client in all six categories. The skills mastered by the client in initial assessment and in training, as well as the date the skill was demonstrated or completed, are entered on the Skill Summary Chart. For any skill objective mastered, a "+" is entered. For any objective failed in initial assessment, a "-" is entered. The date training was begun and the date training was completed (the skill was mastered) are recorded. The summary column provides a concise view of the skill objectives mastered in either initial assessment or training, and so summarizes the individual client's progress to date in each skill category.

The Skill Objective Profile allows for a quick survey of overall client progress in each of the six skill categories. The profile is constructed by dividing the number of skill objectives mastered in a category by the total number of skill objectives considered applicable to the client in that category, multiplied by 100. The instrument is hand scorable.

Reliability

The ILBC is considered in terms of reliability as stability and reliability as interobserver agreement. Reliability as stability was assessed using test-retest procedures (two weeks between tests). Two observers rated video presentations of five rehabilitation clients performing five randomly selected skill objectives from each of the six skill areas (i.e., mobility, self-care, etc.). Stability across six categories ranged from 96% to 100% using two observers. The overall mean stability of the ILBC was 98.0%.An index of interobserver reliability was computed by comparing the scores of Observer 1 and Observer 2 at Time 1. Interobserver reliability across all six categories ranged from 96% to 100%. The overall interobserver reliability of the ILBC was 98.7%

Validity

The skill objectives of this behavioral checklist are samples of situations. Content validity is an indication of how well the skill objectives sample the particular situation, i.e., independent living skills. Content validity does not yield a numerical value but rather gives a clear definition of the universe represented and describes the procedure followed in the sampling from that universe. Construction of the ILBC began with more than 200 behavioral checklists collected from rehabilitation facilities and schools throughout the United States and other countries. Of these checklists, 53 were selected which contained items found to be constructed well enough to suggest ways to assess independent living behaviors. Thus, the universe was based on the experience of many training facility and independent living personnel spread over a wide geographic area. Rather than sampling from this broad array of behaviors, the entire universe was used to suggest skill objectives for mobility, self-care, home maintenance and safety, food, social and communication, and functional academic skills. While the ILBC fills apparent gaps in existing measures, the content of the ILBC captures the collective experience and judgment of an impressive array of training personnel. It is more comprehensive than the wisdom and experience of a single facility, staff, or training group. Thus, the content validity of the ILBC must be considered high.

Criterion-related validity was examined by determining how closely the skill objectives of the ILBC conform to those behaviors that have been found necessary to actually live in an independent setting. Both laboratory and field-based research have contributed to the development of the Nebraska Assessment for Independent Living Skills (Schwab, 1979). Research and development of the Nebraska skills involved work with emotionally disturbed short-term patients in state hospitals, a broad range of vocational rehabilitation clients in a field setting, and severely handicapped cerebral palsied clients. In each of these settings, the behaviors have been narrowed and refined to yield the present set of skills relevant to independent living. The behaviors identified by the Nebraska group as being crucial for independent living were examined by Walls, Zane, and Thvedt (1979) after the skill objectives for the ILBC had been completed. Thus, a high degree of agreement between what has been found important in contributing to independence and the ILBC would indicate high criterion-related validity. All of the 17 categories defined by Schwab (1979) as essential for independent living were found to be included in the ILBC. The criterion-related validity with this extensively researched Nebraska source was 1.0 (100%). The user may have confidence that the ILBC includes the important and relevant skills for independent living.

Advantages

The skills to be assessed by the ILBC can be adjusted to suit

the type of training and/or the individual needs of the client or trainee. This is accomplished by selecting only those objectives which are relevant or writing additional objectives which are needed.

Limitations

Because skill objectives may be added, deleted, and/or changed, the ILBC is simply a checklist of skills (a criterion-referenced measure); it is not a standardized instrument (norm referenced).

References

Schwab, L. O. The Nebraska assessment for independent living (Project 93-103). Lincoln, Nebraska: Department of Human Development and the Family, University of Nebraska, 1979.

Walls, R. T., Zane, T., and Thvedt, J.E. The independent living behavior checklist (experimental edition). Dunbar, WV: Research and Training Center Press, 1979.

Availability

Copies of the ILBC and other pertinent information is available from ---

Publications Department
West Virginia Rehabilitation Research
and Training Center
One Dunbar Plaza, Suite E
Dunbar, WV 25064

SAMPLE ITEMS

INDEPENDENT LIVING BEHAVIOR CHECKLIST

Experimental Edition

MOBILITY SKILLS

Up Stairs 4

Condition: Given a flight of stairs of 5 steps or more with a handrail.

Behavior: Client climbs or travels up the stairs.

Standard: Behavior within 1 minute. Five steps must be traveled up the stairs.

Weight Carry 27

Condition: Given a bag of groceries (or a similar item) weighing 10 to 15 pounds.

Behavior: Clients picks up (from either a floor or counter) and carries the bag.

Standard: Behavior within 3 minutes. A minimum distance of 50 feet must be traveled without dropping the bag or items.

SELF-CARE SKILLS

Dressing 2

Condition: Given underwear, outer wear, socks, and shoes.

Behavior: Client takes off and puts on clothes.

Standard: Behavior within 30 minutes. All under and outer wear garments must be put on and taken off correctly. No fastening, zipping, buttoning, or tying is required.

Shower or Bath 35

Condition: Given a bathtub or shower prepared for bathing, soap, washcloth, and towel.

Behavior: Client undresses, washes the entire body including soaping the body and shampooing the hair, and then rinses and dries off the body.

Standard: Behavior within 30 minutes. No soap or water must remain on the body, and no dirt must be visible.

HOME MAINTENANCE AND SAFETY SKILLS

Door Lock 2

Condition: Given a key for the entrance to the home (e.g., house, apartment, trailer).

Behavior: Client locks the door when leaving the apartment.

Standard: Behavior within 2 minutes. The key must be in the possession of the client before the door is locked, and the door must be locked so that it cannot be opened without the key.

FOOD SKILLS

Frying Pan 43

Condition: Given a frying pan on a stove burner, or an electric frying pan (plugged in), and food to be fried according to a specific recipe.

Behavior: Client turns on the burner or electric frying pan and fries the food.

Standard: Behavior within the time specified by the recipe. The cooking must follow the recipe.

SOCIAL AND COMMUNICATION SKILLS

Conversation 5

Condition: Given a role play or natural situation in which the client converses with others.

Behavior: Client initiates and participates in a conversation.

Standard: In a role play or natural situation, all persons interviewed must independently state that the client started and participated in a conversation and did not remain silent.

FUNCTIONAL ACADEMIC SKILLS

Cash Purchase 32

Condition: Given specific item(s) to be purchased at a cash register (e.g., food, clothes, movie ticket), and some money (no checks or credit cards).

Behavior: Client purchases the item(s).

Standard: Behavior within 5 minutes. Sufficient cash must be paid to buy all of the items brought to the register, and the correct change received.

Reproduced by permission. Copyright © 1979. Richard T. Walls, Thomas Zane, and John E. Thvedt as the Independent Living Behavior Checklist (Experimental Edition).

THE LEVEL OF REHABILITATION SCALE (LORS)

Developer(s)

The LORS was developed by Raymond G. Carey of the Lutheran General Hospital in Park Ridge, Illinois, and Emil J. Posavac of Loyola University of Chicago, Illinois, in 1977.

Purpose

The LORS is designed to provide a general assessment of patient functioning for the purpose of program evaluation rather than for clinical assessment. It provides an assessment of overall functioning as an inpatient and as an outpatient in order to evaluate patient progress after discharge from the hospital or health care facility.

Description

The LORS contains five subscales which measure the following: activities of daily living, or ADL (e.g., walking, grooming, transfer, etc.); cognition (e.g., speaking, reading, writing, etc.); home activities (e.g., cooking, housework, hobbies, etc.); outside activities (e.g., shopping, spectator events, trips, etc.); and social interactions(e.g., participating in games with others, etc.). The scale contains 47 items.

Use

The LORS is designed to be used with all clients in a physical medicine and rehabilitation unit. It seems more useful to physical medicine and rehabilitation unit personnel or rehabilitation facility personnel than to VR case managers or program managers. Inpatient rehabilitation teams have used the information gathered from the LORS to monitor the overall level of program success and to satisfy the program evaluation requirements of the Commission on Accreditation of Rehabilitation Facilities.

The LORS has been revised recently (Carey & Posavac, 1981). The new version, the LORS-II, would be useful to those interested in assessing the progress of patients during their hospital stays and for those interested in using cost effective methods of meeting quality assurance requirements. The emphasis is on areas that can be influenced by rehabilitation services.

Administration

The LORS should be administered at admission (witnin three days of admission), at discharge, and again once the patient has had an opportunity to return home and readjust to the home routine (generally about six weeks after discharge). If one chooses to base ratings on direct observations, experienced clinicians would be required (e.g., physical therapists, occupational therapists, physicians, or nurses). However, clerical personnel can be trained to interview skilled clinicians and make the ratings. The same clerical personnel can conduct telephone interviews with family members to conduct follow-up interviews once the patient is home. It is necessary that the interviewer be thoroughly familiar with the scoring code guide before beginning interviews. The guide is not complicated but it is extensive and cannot be referred to during the interview. Administration of the LORS requires 10-20 minutes.

Scoring

Each of the activities making up the five major categories of the LORS is rated on a scale from zero to four by a trained interviewer. A coding manual is available which describes the numerical ratings in behavioral terms. Because the activities in the Cognition subscale have a limited overt behavior component (e.g., reading), the functional level ratings of cognitive abilities require more judgment on the part of the interviewer than the other subscales.

Once individual ratings have been made, subscale scores (e.g., ADL, Cognition, etc.) are obtained by summing the item ratings for each subscale and converting these sums into percentages of normal functioning. When the spouse or nurse has not had an opportunity to observe a particular activity, the interviewer makes no rating of that activity, and the omission is not "held against" the patient; the score is adjusted for the unavailable ratings. A summary sheet accompanying the scale contains formulas to assist in converting sums into percentages.

Reliability

In developing the LORS, ten interviews were conducted with two trained interviewers present in order to examine the interrater reliability. One interviewer made ratings based on the informant's answers but did not otherwise participate in the interview. The correlations between the two interviewers for the ADL and Cognition subscales were .97 and .96, respectively.

Inter-informant reliability was assessed for 30 patients when both nurses and spouses were interviewed concerning the clients' abilities at admission. The correlation between ratings based on the nurse admission interview and the spouse admission interview for ADL was .82. For Cognition it was .86. For another perspective on inter-informant reliability, two nurses were interviewed independently at discharge for 23 patients. For ADL, the discharge inter-informant reliability was .95, and for Cognition it was .89.

The internal consistency of each subscale was examined by calculating the homogeneity coefficient. This coefficient is used to determine whether the subscales of the LORS are measures of single variables or whether the subscales are heterogeneous. Cronbach's alpha was used with each administration of the LORS. The mean alpha coefficient for ADL was .93; for Cognition, the mean alpha was .88. The homogeneity coefficients were equivalent whether they were calculated on the basis of nurse ratings or spouse ratings. The remaining three subscales were only administered to the spouse and were shorter than ADL and Cognition. The alpha coefficients were .85 for Home Activities, .76 for Outside Activities, and .64 for Social Interactions.

The LORS possesses good interrater reliability and inter-informant reliability. The homogeneity for ADL and Cognition was also excellent. The lower homogeneity coefficients for Home Activities, Outside Activities, and Social Interactions should be evaluated

against the purpose of the LORS. If the LORS is used to estimate the overall functioning of a group for program evaluation purposes, these subscales possess adequate homogeneity. These three scales, however, are not of sufficient purity to use confidently as assessment instruments for individual patients.

Validity

Convergent and discriminant validity were constructed to determine if the ADL and Cognition subscales are distinct from one another. Ratings on these two subscales were available from both a nurse and a spouse for 30 patients. If ADL and Cognition are distinct abilities, then correlations of the ratings of ADL and Cognition should be lower than the inter-informant reliability of both ADL and Cognition. Inter-informant correlations of ADL (.82) and Cognition (.86) exceed the correlations between ADL and Cognition for both nurses (.59) and spouses (.50).

Criterion validity was constructed to determine if the subscales reflect known differences among clients. Although based on a small sample, subscales did discriminate between left and right hemiplegic CVA patients as expected. Left hemiplegic CVA patients experience perceptual difficulties while right hemiplegic patients suffer greater speech difficulties. The subscales correctly detect these differences in that Cognition scores are higher for left hemiplegic CVA patients both at admission and at discharge; however, right hemiplegic CVA patients improve more on ADL since they are less burdened by perceptual problems.

Advantages

Some of the advantages of using the LORS include the following: it is relatively inexpensive, it is useful in providing a quantitative assessment of functioning for both inpatients and outpatients, and it is behaviorally anchored and useful in documenting improvements resulting from medical care.

Limitations

The LORS is intended to provide a global measure of functioning and not to be a clinician's tool. Also, a few items on the Cognition and ADL subscales are concerned with areas that cannot be changed by rehabilitation services. Those items have been omitted from the LORS-II (mentioned in the Use section) in order to focus more clearly on areas over which rehabilitation services have an influence.

References

Carey, R. G., & Posavac, E. J. The level of rehabilitation scale - II (LORS-II): A comprehensive and cost-efficient method of evaluating rehabilitation programs. Manuscript pending publication, 1981.

Carey, R. G., & Posavac, E. J. Manual for the level of rehabilitation scale in Functional Limitations: A State of the Art Review. Falls Church, Virginia: Indices, Inc., 1978.

Carey, R. G., & Posavac, E. J. Program evaluation of a physical medicine and rehabilitation unit: A new approach. Archives of Physical Medicine and Rehabilitation, 1978, 59, 330-337.

Availability — The LORS, along with the manual, scoring codes, rating sheets, and scoring aids, is available from ---

Raymond G. Carey, Ph.D.
Director
Health Care Evaluation Division
Parkside Medical Services Corp.
1580 N. Northwest Hwy.
Park Ridge, IL 60068

Information on the LORS-II can also be obtained from the above source.

LEVEL OF REHABILITATION SCALE

RATING SHEET

Name of patient _____ Informant _____

Interview:

1. Admission 2. Discharge 3. 6-week follow-up 4. 4½-month follow-up

Date: _____

Note: When informant does not know patient's ability, enter "?" and treat as NA in scoring

ACTIVITIES OF DAILY LIVING (ADL)	
1. Able to get about	
2. Ability to walk	
3. Speed of walking	
4. Does bed and chair transfers	
5. Overall efficiency of feeding self	
6. Speed of feeding self	
7. Independence in using toilet	
8. Bowel and bladder control	
9. Grooms self	
10. Speed in grooming self	
11. Independence in dressing self	
12. Speed in dressing self	
13. Independence in bathing	
14. Speed in bathing	
COGNITION	
15. Is oriented for time (e.g., the hour, day, month)	
16. Understands speech such as simple directions	
17. Uses "Yes" and "No" appropriately	

18. Quality of speech	
19. Speed of speech	
20. Use of gestures in place of speech (NA for patients without speech impairment)	
21. Reads	
22. Writes	
23. Can make change for money	
24. Does more complex arithmetic (balance checkbook, income tax forms)	
25. Initiation and appropriateness of social behavior (eye contact, smiles)	
26. Able to shift from one task to another with relative ease and speed (Patient does not repeat letters when writing, can move through the steps of grooming self without help in stopping a step and moving on to the next step)	
27. Can monitor own behavior (aware of own mistakes in speech, realizes some behaviors would be inappropriate)	
28. Ability to correct errors (as in #27)	
29. Recent memory (0 = less than 10 minutes; 4 = 10 minutes or more)	
HOME ACTIVITIES 30. Prepares simple foods and drinks (juice, toast, coffee)	
31. Performs light housekeeping chores (meals, dishes, dusting)	
32. Performs heavy housekeeping chores (floor, window washing)	
33. Performs odd jobs in or around the house (gardening, minor repairs, mending, sewing)	
34. Engages in individual pasttimes (reading, knitting, collecting)	
35. Manipulates telephone and/or television (dialing, changing stations -- do not rate speech impairment	
OUTSIDE ACTIVITIES 36. Wants to engage in simple outside activities (walks, rides)	
37. Does shopping and other errands (food, clothes, banking)	
38. Attends spectator events (theater, concerts, movies, sports)	

39. Uses transportation accompanied (auto, cab, train, plane)	
40. Uses transportation independently (Rate NA if #39 was 0)	
41. Takes longer trips (5 hours) accompanied	
42. Takes longer trips independently (Rage NA if #41 was 0)	
SOCIAL INTERACTION 43. Participates in games (cards, checkers) with others (Do not rate skill.)	
44. Participates in home social activities (family visits, friends)	
45. Attends social functions outside of home (friends' homes, eat out)	
46. Goes to church or synagogue	
47. Goes to work or school	

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LONGITUDINAL FUNCTIONAL ASSESSMENT SYSTEM (LFAS)

Developer(s)

The LFAS was developed by The Institute for Rehabilitation and Research, Behavioral Ecology Program, Houston, Texas, and copyrighted in 1981.

Purpose

The LFAS will provide continual measurements of actual patient activity over time.

Description

The LFAS is composed of four components. (1) The Self-Observation and Report Technique (SORT) is the primary data collection method used to gather information about the daily activities of selected target individuals. The SORT is an interview technique that can be used in a variety of data collection modes. The interview can be conducted by the interviewer via the telephone or face-to-face with the client. In essence, the SORT interview is a technique to quantify a person's daily activities during a certain period of time, usually 24 hours. The interviewer records the client's reported sequence of behaviors. To help clients reconstruct their activities, the interviewer must be able to provide prompts to stimulate and enhance the clients' recall. As the activities are reported, the interviewer translates the activities into units of behavior. When completed, the interview produces a quantitative record of what the person did, when, with whom, where, and some information on how the activities were carried out.

(2) There are two mechanical or electro-mechanical devices employed in the LFAS to provide measurements of specific behavioral parameters. The wheelchair odometer is a small, unobtrusive mechanical counter. When attached to the wheels of a wheelchair, periodic readings of the counter produce a measure of the linear distance traversed during a period of time. The number of feet traversed during a week, for example, is an excellent measure of mobility. The RTM/STM is a small device which records elapsed time electrically. When connected to pressure sensitive pads and placed beneath either the mattress of a bed or a wheelchair cushion, the RTM/STM device provides a measure of time out of bed (Rest Time Monitor - RTM) or time sitting in a wheelchair (Sit Time Monitor - STM).

(3) The Environmental Negotiability Survey (ENS) provides a sensitive, objective, quantitative approach to assessing living environments for the physically disabled. The data produced by the ENS can be used to counsel clients on home modifications on a cost-benefit basis.

(4) The Longitudinal Data Management System (LDMS) is a package of computer programs designed to greatly facilitate management and analysis of LFAS data. Although designed to support the data produced by extensive use of the SORT, the LDMS is very flexible and can be applied to many data management problems.

The focus of the system is on the patient's performance under everyday circumstances, both within the hospital and following discharge. Measurements of the patient's performance are made and include the location, time, assistance from others, sociability, diversity and number of specific behaviors, and rate of change in these behaviors over time. The LFAS is focused on measures of actual client behavior.

Use

The LFAS has been developed, tested, and refined in the context of comprehensive rehabilitation for spinal cord injuries, and thus is most appropriate when used in similar contexts. However, the SORT and supporting computer-based data management system is very flexible and can be used for many purposes with many different populations in both institutional or hospital settings as well as with clients at home or in the community.

The LFAS should be useful to various rehabilitation professionals (e.g., case managers, program managers, physicians, occupational and physical therapists, social workers, and others). Case managers may find it useful in determining eligibility, developing rehabilitation plans, and assessing client progress. Program managers may find it useful in documenting the impact of their programs. In addition, the LFAS should be useful for a number of research and program evaluation purposes.

The LFAS is designed for individual assessment over long periods of time (up to years). However, the LFAS can be used to reflect the functioning of systems (wards or units, programs, services, etc.). The LFAS is most powerful when employed to provide measures of patient/client outcome. That is, the LFAS provides measures of dependent or criteria variables.

Administration

The LFAS measurement tools can be used by rehabilitation team members (nurses, therapists, case managers, etc.), by professional performance monitors, or by researchers. The time required for use varies with the extensiveness of application. Generally, less than two person hours per patient interview are required to collect, process, and interpret the data from the SORT.

Scoring

There is no scoring in the traditional sense associated with the questionnaire instruments. Each measurement tool in the LFA System (SORT, Odometer, RTM/STM, ENS) produces data that can be easily hand tallied to reveal pertinent indicators.
(1) SORT. For use with spinal cord injured populations, key indicators of status and progress can be tallied directly from the interviews. When the SORT is employed with the LDMS, a wide array of behavior status indicators can be developed. The programs include the capability of developing norms for any set of indicators for any population.

(2) Odometer. The cumulative counter is read periodically (e.g., daily, weekly). The counts on the counter represent wheel revolutions. A simple conversion translates counts into

linear distance (e.g., feet, meters). The measure of mobility is the distance traversed per time period (days, weeks).

(3) RTM/STM. The measurements produced of hours sitting or hours out of bed can be used directly for assessment of status and progress. It is useful to average daily data into weekly means.

(4) ENS. Scoring of the ENS involves little more than calculating percentages. The data produced can be used directly for assessments of living arrangements or for counseling for environmental modification.

Reliability — The developer reports high levels of reliability and accuracy for each of the LFAS components.

Validity — The developer reports that the LFAS has documented validity in the following areas. There are no inferred underlying constructs; face validity is high. The key indicators of functioning for spinal cord injury are internally consistent. The measures of client status are useful to clinical teams conducting programs of comprehensive rehabilitation. The key indicators of functioning for spinal cord injuries have extremely high predictive validity.

Advantages — Some of the advantages include the following: (1) LFAS can be used to provide relatively continuous monitoring rather than periodic assessment; (2) LFAS is based on observable patient behavior as it occurs, rather than global estimates, retrospective judgment, or professional opinion; (3) the indicators of client functioning are objective and quantified; (4) the LFAS will reveal outcomes or results that were not anticipated or are unexpected; (5) the orientation of the LFAS is to monitor directly whatever clients do in their everyday routine and then translate this actual behavior into quantitative assessment of performance rather than basing it on prior pre-selected categories of behavior.

Limitations — Some of the limitations include the following: (1) The LFAS is designed for longitudinal application. Although it can be used in a point-in-time fashion, it has limited application as an initial status evaluation or screening device. (2) The primary data collection tool (the SORT) requires use with clients of average intelligence and verbal communication skills. (3) The ENS requires a home visit with the client present. (4) The rationale and techniques of the LFAS are unconventional. Although simple and easy to understand, most rehabilitation professionals are unfamiliar with this approach.

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A list of additional references can be obtained from Dr. J. L. Alexander (see Availability section for address).

Availability

Materials and additional information can be obtained by contacting the appropriate office at ---

The Institute for Rehabilitation and
Research (TIRR)
1333 Moursund Avenue
Houston, TX 77030

A training package for the SORT is available through the Division of Education, TIRR. For some purposes, additional technical assistance may be required.

The LDMS computer package is available through the Division of Education, TIRR. Technical assistance for installation and initial familiarization with the programs may be required.

A training package for the ENS is being developed and should be available through the Division of Education, TIRR, sometime in 1982.

The wheelchair odometer and RTM/STM instruments can be obtained from the Rehabilitation Engineering Center, TIRR. Contact either Dr. L. S. Halstead or Dr. T. A. Krouskop at TIRR.

Additional information or inquiries should be directed to Dr. J. L. Alexander in Behavioral Ecology (G-238), TIRR.

THE PULSES PROFILE
GRANGER ADAPTATION

Developer(s)

The PULSES Profile is a variation of the Pulhems Profile developed by the Canadian Army and later adapted by the U.S. Army. Moskowitz and McCann changed the specifications of the PULSES Profile and included additional items to make it more applicable to the aged and the chronically ill in 1957. Carl V. Granger made additional modifications in the mid 1970's.

Purpose

The PULSES Profile reflects a client's independence in life functioning and hence is an indicator of the severity of a client's disability.

Description

The PULSES Profile contains six items which are scaled from one to four, representing the client's need for assistance in performing different activities. "One" indicates independence from the help of others, while "four" indicates complete dependence. Each letter in the acronym, PULSES, represents one of the six different areas to be investigated. The areas are as follows:

p - physical condition;

U - upper limb functions, including self-care activities;

L - lower limb functions, including mobility;

S - sensory components relating to communication and vision;

E - excretory functions;

S - Situational factors, including intellectual and emotional adaptability, support from the family unit, and financial ability.

Use

The PULSES Profile was originally intended to assess individuals in a restricted environment with limited physical requirements. It needs to be supplemented with other assessments for use in the rehabilitation process -- rehabilitation agencies and facilities obtaining information about the severity of the disability -- and especially with the mentally retarded and emotionally disabled.

The PULSES Profile is useful to both case managers and program managers. It provides the case manager with a crude indicator of what the client can do and what problems he/she might experience. It is beneficial to program managers and case managers in planning and delivering services, in describing individual and group progress in rehabilitation and in evaluating treatment effectiveness. It could also be useful in population surveys conducted to determine levels of disability.

Administration

Administration of the PULSES Profile requires training but little professional judgment. It is generally completed after reviewing client records, including all pertinent medical and social data, and interviewing the client. The numerical values given the various categories constitute the basis of interpretation; therefore, counselors and other paramedical personnel are relieved of the difficult task of interpreting medical data. It can be administered in a few minutes.

The scale can be administered at various points. Assessments at admission, discharge, and follow-up can indicate the effectiveness and efficiency of services. Assessment at the time of client transfer to another agency or facility can provide patient functional status information.

Scoring

The ratings of 1 to 4 in each area provide a profile of the client's functioning in each area. A total score is calculated by summing the area ratings. Total scores range from 6 to 24. The higher the score, the more dependent the person. Studies have suggested useful operational cutting points for distinguishing varying degrees of severity in a disability; further study needs to be done in this area. The scale can be hand scored in a matter of minutes.

Reliability

Three hundred seven severely disabled adults, former patients at 10 comprehensive medical rehabilitation centers, were subjects in a study in which the PULSES Profile was administered. Test-retest reliability was .87 and intercoder reliability was above .95.

Validity

Two hundred sixty-nine patients who were admitted to an acute stroke unit were discharged home, to a rehabilitation unit, or to a long-term care facility. Discriminant function analysis indicated that the PULSES and Barthel Index (a measure of a client's independence in mobility, self-care, and bladder and bowel control) discharge scores were the strongest predictors of discharge outcome from a number of factors. Also, the PULSES and Barthel Index scores at discharge correlated -.9 (they are scored in opposite directions).

Similar results were obtained with information gathered on 45 patients who had been transferred from a stroke unit to a rehabilitation unit. Discriminant function analysis indicated that the PULSES and Barthel Index rehabilitation discharge scores, along with the rehabilitation discharge level of intellectual and emotional adaptability, made statistically significant contributions to the equation predicting discharge outcome.

Advantages

The PULSES Profile is brief and easy to use. It is a valuable tool for rehabilitation practitioners as long as it is used as a brief profile of the client's ability rather than as a measure of detailed evaluation.

Limitations

The PULSES Profile is oriented toward the physically disabled. Clients who are totally blind or totally deaf or mentally retarded would be considered mild to moderately disabled if there were no other complications. However, the Rehabilitation Act of 1973 indicates that all of these are severe disabilities. Next, it is possible to be classified as severely disabled if a score of 2 (minor abnormality) is assigned for each item (total score of 12), yet a person who is totally dependent in two areas and totally independent in all others can receive the same score. Therefore, the medical conditions and the environmental conditions must always be understood in context with the functional score. This should avoid problems in adoption of the scale by state agencies on a widespread basis to determine eligibility. Finally, the method focuses on the client's actual functioning rather than ability to cope with the condition; therefore, the system does assess the client's progress when the assessment is repeated over time.

References

Granger Adaptation

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Moskowitz, E. & McCann, C. B. Classification of disability in the chronically ill and aging. Journal of Chronic Disease, 1957, 5 (3), 342-346.

Urban Institute. First year report on section 130 demonstration projects. Washington, DC: Author, 1976.

Availability

Additional information can be obtained from ---

Carl V. Granger, MD, Director
Brown University/The Memorial Hospital
Institute for Rehabilitation and
Restorative Care
Family Care Center
89 Pond Street
Pawtucket, RI 02860

or

Maureen McNamara, Coordinator
Medical Rehabilitation Evaluation
Family Care Center
89 Pond Street
Pawtucket, RI 02860

PULSES PROFILE

GRANGER ADAPTATION

P - Physical condition: Includes diseases of the viscera (cardiovascular, gastrointestinal, urologic, and endocrine) and neurologic disorders:
1. Medical problems sufficiently stable that medical or nursing monitoring is not required more often than 3-month intervals.
2. Medical or nurse monitoring is needed more often than 3-month intervals but not each week.
3. Medical problems are sufficiently unstable as to require regular medical and/or nursing attention at least weekly.
4. Medical problems require intensive medical and/or nursing attention at least daily (excluding personal care assistance only).

U - Upper limb functions: Self-care activities (drink/feed, dress upper/lower, brace/prothesis, groom, wash, perineal care) dependent mainly upon upper limb function:
1. Independent in self-care without impairment of upper limbs.
2. Independent in self-care with some impairment of upper limbs.
3. Dependent upon assistance or supervision in self-care with or without impairment of upper limbs.
4. Dependent totally in self-care with marked impairment of upper limbs.

L - Lower limb functions: Mobility (transfer chair/toilet/tub or shower, walk, stairs, wheelchair) dependent mainly upon lower limb function:
1. Independent in mobility without impairment of lower limbs.
2. Independent in mobility with some impairment in lower limbs; such as needing ambulatory aids, a brace or prosthesis, or else fully independent in a wheelchair without significant architectural or environmental barriers.
3. Dependent upon assistance or supervision in mobility with or without impairment of lower limbs, or partly independent in a wheelchair, or there are significant architectural or environmental barriers.
4. Dependent totally in mobility with marked impairment of lower limbs.

S - Sensory components: Relating to communication (speech and hearing) and vision:
1. Independent in communication and vision without impairment.
2. Independent in communication and vision with some impairment such as mild dysarthria, mild aphasia, or need for eyeglasses or hearing aid, or needing regular eye medication.
3. Dependent upon assistance, an interpreter, or supervision in communication or vision.
4. Dependent totally in communication or vision.

E - Excretory functions: (bladder and bowel):
1. Complete voluntary control of bladder and bowel sphincters.
2. Control of sphincters allows normal social activities despite urgency or need for catheter, appliance, suppositories, etc. Able to care for needs without assistance.
3. Dependent upon assistance in sphincter management or else has accidents occasionally.
4. Frequent wetting or soiling from incontinence of bladder of bowel sphincters.

S - Support factors: Consider intellectual and emotional adaptability, support from family unit, and financial ability:
1. Able to fulfill usual roles and perform customary tasks.
2. Must make some modification in usual roles and performance of customary tasks.
3. Dependent upon assistance, supervision, encouragement or assistance from a public or private agency due to any of the above considerations.
4. Dependent upon long-term institutional care (chronic hospitalization, nursing home, etc.) excluding time-limited hospital for specific evaluation, treatment, or active rehabilitation.

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REHABILITATION INDICATORS (RI's)

Developer(s)

The Rehabilitation Indicators are being developed by Leonard Diller, Wilbert Fordyce, Durand Jacobs, and Margaret Brown for the Rehabilitation Indicators Project at the New York University Medical Center.

Purpose

RI's will be used to assess and describe diverse aspects of client functioning.

Description

RI's consist of four assessment instruments (i.e., Status Indicators, Activity Pattern Indicators, Skill Indicators, and Environmental Indicators) which are designed to capture characteristics and information about client functioning across various life areas from four points of view. Each of the four instruments can be used individually or in combination with the others. The RI's are descriptive statements presented in "non-jargon" language and they refer to specific, observable aspects of behavior and environment. Each descriptor may act as an indicator of rehabilitation progress, depending on the individual or group assessed and on the rehabilitation setting in which the assessment occurs. As indicated below, the four sets of descriptors differ in the aspects of functioning investigated and in approaches to data gathering.

(1) Status Indicators consist of approximately 50 descriptors in six areas of functioning: vocation, income, education self-care (including housing arrangements and assistance provided), transportation, and family role. Status Indicators may look like "demographics," but they include only those variables that can be influenced by disability and by rehabilitation efforts. Status Indicators are recorded in an inventory format by interviewing the client or significant other, or by investigating already existing records.

(2) Activity Pattern Indicators (API's) are a family of instruments that are designed to describe an individual's patterns of daily activity: types of activities engaged in, location, use of assistance, and level of concurrent social contact. Two basic approaches to gathering such data have been developed: (a) An Inventory of activities, in which a standard list is used to review the nature of activities engaged in during a specified time sample (e.g., "last week," unless atypical for the person). The Inventory is administered either through interview or self-administered questionnaire. An optional activity diary can be filled out daily by the individual prior to the Inventory's being administered. (b) A Timeline format is also available in which through

interview an individual reconstitutes two recent typical days, from memory or on the basis of an optional diary. Data-gathering time with either format varies with the number of optional activity dimensions being coded and the complexity of the individual's pattern of activity; typically claims on the data gatherer's time vary from five minutes (with the Self-Administered Inventory) to 50 or 60 minutes (with a timeline interview in which the informant has not kept a diary and where all optional activity dimensions are coded).

(3) Skill Indicators contain 711 specific skills which provide a description of the "behavior tools" a person has or has problems with in meeting his/her vocational, educational, recreational, family role, self-care, and other goals. The skills are organized into more than 70 skill packets, and users pre-select only those packets relevant to their target audience and only the relevant skills within each packet. The Skill Indicators assess tasks that are meaningful units (e.g., "turns knob to open door"). They do not assess partial tasks or movements, such as rotating forearm, nor do they assess feelings or thoughts. Skill Indicators are recorded in a problem list format by observing or interviewing the client or significant other.

(4) Environmental Indicators are presently being developed and describe aspects of the client's physical, social, and personal environment that support or hinder the attainment of rehabilitation goals.

Use

RI's focus largely on functioning per se, not on impaired functioning or functioning that compensates for an impairment (e.g., using sign language). Therefore, RI descriptors can be used in assessing able-bodied persons as well as persons with any type of disability (e.g., physical, psychiatric, sensory, and/or developmental). The developers of RI's recommend their use in nearly all rehabilitation settings (e.g., state-federal VR, rehabilitation facilities, medical rehabilitation, independent living centers, etc.) as well as non-rehabilitation settings (e.g. mental health centers and hospitals).

RI descriptors are designed to be used by a number of rehabilitation professionals (e.g., program managers, nurses, psychologists, physicians, aides, occupational therapists, etc.). Using RI descriptors, program managers will be able to document client change, thereby enhancing the face validity of evaluation data; better monitor and supervise counselors; and identify the usefulness of specific inputs in contributing to client outcomes among specific client groups. The generic

language of the descriptors will aid case managers in determining eligibility, identifying client needs, specifying goals, measuring multidimensional outcomes, and assessing goal attainment. Another feature of the RI's flexibility is the convenience of using only those forms and items selected as appropriate to the individual client and/or specific program. In addition, the use of the RI descriptors should prove helpful in facilitating inter-setting and inter-professional communication and in providing information for program evaluators, researchers, and policymakers.

Administration

RI data can be ascertained in a variety of ways (e.g., professional or paraprofessional observation, self-report via interview and/or self-administered questionnaires, interviews with the client's significant other(s) or relevant rehabilitation personnel). RI data can be obtained at any point in the rehabilitation process, or subsequent to it. The RI project staff plays a significant role in recommending to rehabilitation settings how best to gather RI data to meet the needs of the particular setting. The negotiation process between RI users and the RI project staff is designed to develop a modified package of descriptors which, although uniquely applicable to its setting, uses modules that are comparable across settings. In the future, training packages will replace the need for such intense RI staff participation in planning.

Scoring

Status Indicators generate categorical descriptive data that are not scored as such. Status data can, nevertheless, be used to describe individualized categorical change (e.g., change in employment status, greater access to transportation).

Activity Pattern Indicators' scoring depends upon which data-gathering format is adopted and which dimensions of activity have been coded. The standard form of data reduction, however, consists of measures of the individual's level of participation within activity categories (e.g., vocational, active recreation, travel). Measures depend on the form used: The Inventory generates two measures, frequency and diversity, while the Timeline generates an additional measure, percent duration. Levels of participation can also be generated to describe where an individual engages in the activity (i.e., home vs. away), use of assistance during activities and/or the presence of other people during activities. Thus, API data are descriptive of an individual's participation in home and community settings.

Skill Indicators are simply scored: A ratio for each skill packet incorporated into the assessment is generated to indicate the number of skills viewed as being problems or as being null compared to the total number of skills in the packet. Scoring is used to summarize the skill descriptors, but typically users place greater emphasis on individual skill change than on the summarized data.

RI descriptors are designed for individual assessment; data can be summarized for individuals or across individuals to provide group data.

Reliability

Reliability is continually being explored in a wide variety of contexts during field testing to determine training procedures to optimize the reliability of data gathering. Test-retest reliability of an earlier form of the Inventory, for example, was determined using samples of individuals to provide activity data relevant to two typical contiguous weeks. With N=20, 10 of 12 categories of activity by type were significantly correlated over the two weeks' data sets. These data were used subsequently to improve the format and procedures of this instrument. More exhaustive studies are presently being conducted relevant to the Timeline form of RPI's and to the Skill Indicators.

Validity

Validity is being explored by correlating RI data with disability information, demographics, psychological test scores, and other functional measures. For example, when paraplegic and quadriplegic groups were compared, the former had significantly more diverse patterns of activity, traveled more, and spent more time in family role activity (e.g., paying bills, shopping); females engaged in more social activites than males; greater diversity of activity was associated with lower values on a measure of depression. Results of studies of RI's and other measures that reflect on validity have been and will continue to be published.

Advantages

RI descriptors provide the following advantages: (1) Their organizing characteristics and variety of uses make them flexible enough to be used in a wide selection of evaluation approaches. (2) They allow multidimensional and observable outcomes to replace unidimensional definitions of program success. Program evaluation can focus on an appropriately wide or narrow range of functioning to reflect fully the rehabilitation agency's areas of accountability - from "vocational only" to "independent living" to even more broadly focused areas. (3) Their structure and organization allow for ease of data reduction as appropriate; information can be obtained at relatively gross levels and/or at relatively specific levels with data collapsed to appropriate levels as program evaluation needs dictate. (4) They provide a language of functional assessment with broad applicability, with the potential for use between various subsystems of rehabilitation (e.g., VR, Developmental Disabilities, Independent Living, Medical Rehabilitation, etc.) and varing sets of participants (e.g., client-counselor, supervisor-counselor, etc.). (5) Their dissemination through the identification of specific packages of descriptors relevant to particular settings will provide individual sets of descriptors based on the needs of the user while generating data which can be pooled for broader analysis.

Limitations

The variety of applications of RI's within rehabilitation have not yet been as fully tested as the developers would like, limiting the degree to which they can be freely disseminated.

References

Brown, M., Dilier, L., Fordyce, W., Jacobs, D., & Gordon, W. Rehabilitation indicators: Their nature and use for assessment. In B. Bolton and D.W. Cook (Eds.), Rehabilitation client assessment. Baltimore: University Park Press, 1980.

Rehabilitation Indicators Project. Rehabilitation indicators: An overview of the RI project. New York: Author.

Rehabilitation Indicators Project. Rehabilitation indicators update, Numbers 1-5.

Availability

The RI's are not yet being generally disseminated. All measures except the Environmental Indicators have been fully developed and are being field tested. All will be more freely disseminated in the coming months, following completion of training guidelines. Those interested in obtaining additional information on the development of the RI'S or project publications and/or results of field tests should contact ---

Ms. Margaret Brown
Project Coordinator
Rehabilitation Indicators Project
400 East 34th Street
New York, NY 10016

REHABILITATION INDICATORS

Status Indicators

S4.1 Housing Arrangement:

☐ S4.11 Enter one code for type of dwelling; if code is greater than "2", complete and skip to S4.2.

☐ S4.12 For codes "0-2" in S4.11, enter number of rooms

S4.11 Codes: Types of Dwellings

0 House
1 Apartment
2 Hotel room or suite
3 Half-way house, short-term placement
4 Hostel, long-term group living
5 Institution, private or semi-private room
6 Institution, more than four persons in a room
7 Intermediate care nursing home
8 Skilled nursing home
9 Other housing

S6.1 Public Transportation Status: For each type, enter one code.

☐ S6.11 Taxi service

☐ S6.12 Transportation for disabled (i.e., specially hired, accessible vehicle)

☐ S6.13 Bus service

☐ S6.14 Train/subway

S6.1 Codes: Level of Use

0 Used frequently (once a week or more often)

1 Used occasionally (less than once a week)

2 Not used, but available

3 Not used, not available

Activity Pattern Indicators: Self-Administered Inventory

6. How many times in the Week... did you do this Housework activity?	If "0" in week, how many times in the Month?
_____ Cook or prepare meals (like make breakfast, make coffee, set the table)?	_____
_____ Do dishes (includes clear the table, load dishwasher, dry dishes, put them away)?	_____
_____ Clean house (includes vacuum, dust, wash windows, make or change beds)?	_____
_____ Do laundry or iron clothes?	_____
_____ Sew or repair clothing?	_____
_____ Do small repairs or routine maintenance chores around the house (like replace a light bulb or fix a dripping faucet)?	_____

How many times in the Week...	did you do this Housework activity?	If "0" in week, how many times in the Month?
_____	Do yardwork or gardening?	_____
_____	Work on or wash a car?	_____
_____	Do other housework and home maintenance activities not mentioned above (like water houseplants, put away groceries)?	_____

_____
Specify

15. If you participated in any rehabilitation activities during the week in question, list them here and indicate how many times you did them.

(Rehabilitation activities include psychotherapy sessions; training in activities for daily living and for using prosthetics or orthotics; counseling; medical rehabilitation; speech, occupational or physical therapy sessions; day activity programs; psycho-social skills training; work adjustment; and training or work evaluation programs.)

How many times in the Week...	did you participate in Rehabilitation activities? (Describe)	If "0" in week, how many times in the Month?
_____	_____	_____
_____	_____	_____
_____	_____	_____

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MEASURES OF CLIENT PERCEPTIONS

MINNESOTA IMPORTANCE QUESTIONNAIRE (MIQ)

Developer(s)

The MIQ was developed by Evan G. Gay, David J. Weiss, Darwin D. Hendel, Rene V. Dawis, and Lloyd H. Lofquist at the University of Minnesota. It was copyrighted in 1971 and revised in 1975.

Purpose

The MIQ is designed to assess vocational needs and to predict job satisfaction for an individual.

Description

Two forms of the MIQ are available: a paired from and a ranked form. The two forms are equivalent. The MIQ paired form contains 210 items which address the individual's preference for reinforcers in the ideal job. The first 190 items of the paired form are presented in a pair-comparison format in which each of 20 vocationally relevant need dimensions are compared with every other need dimension. The final 20 items require the individual to decide whether each need dimension is important or unimportant to him/her. Thus, the client makes both absolute and relative judgements of the importance of various needs.

The MIQ rank order form consists of 126 items. The first 105 items are presented in blocks of five items. Within each of the 21 blocks the individual is asked to rank the relative importance of the five need statements from 1 to 5. The final 21 items require the individual to indicate the absolute level of importance of each of the need statements. The rank order format requires the addition of a 21st need dimension.

The MIQ investigates the importance of 20 (or in the case of the ranked form, 21) vocationally relevant need dimensions that have been found to be important to job satisfaction: ability utilization, achievement, activity, advancement, authority, company policies and practices, compensation, co-workers, creativity, independence, moral values, recognition, responsibility, security, social service, social status, supervision-human relations, supervision-technical, variety, and working conditions (the ranked form also includes autonomy).

Use

The MIQ is appropriate for vocational rehabilitation clients, employees, and students. It would be useful in any setting in which vocational planning would occur (e.g., state-federal VRS, rehabilitation facilities, educational/training facilities, etc.).

The MIQ is used in the following ways: (1) It can be used to prepare for counseling. Characteristics of the client that are identified (e.g., high scores in activity, independence, and variety) might suggest that the client will be impatient and want immediate action. (2) The MIQ can be used to assess the impact of a disability. This is feasible if a pre-disability work history is available and the evidence indicates work

adjustment for the client prior to the onset of the disability. Pre-disability needs might be inferred from Occupational Reinforcer Patterns (ORP's) of satisfying jobs previously held by the client. Comparison of pre- and post-disability needs might provide insight into the impact of disability. Thus, a client might appear to be less achievement-oriented or more security-conscious after becoming disabled. Such insights are useful not only in vocational planning but also in the management of the rehabilitation process for the client. (3) The MIQ may be used in conjunction with a taxonomy of work, the Minnesota Occupational Classification System II (MOCS-II), in order to identify a broader set of occupations appropriate for the client in terms of need-reinforcer correspondence and ability-ability requirement correspondence. MOCS-II presents ability requirement and reinforcer system information for over 1100 occupations. Occupations are grouped into families having similar reinforcer characteristics and ability requirements. MOCS-II is keyed to Occupational Reinforcer Cluster (ORC) and ORP occupation correspondence scores of the MIQ, as well as to Dictionary of Occupational Titles and Occupational Aptitude Pattern codes. (4) Need scales of the MIQ can serve to structure information-seeking by the client. MIQ scales identify reinforcers most salient for the satisfaction of the individual; knowledge of these can help to focus acquisition of occupational information upon the most relevant occupational characteristics for the individual. (5) The MIQ might also be used to help a client, expecially one severely disabled, plan the effective use of his/her non-work time. When the nature of a client's disability limits the choice of possible jobs, available jobs are usually not as satifying to the individual. In such a case, careful choice of non-work activities can compensate for the lack of need satisfaction in work.

Administration

The MIQ is a self-report instrument, and its completion requires at least a fifth-grade reading ability. Items are presented in a reusable booklet, and the individual records his/her responses on a separate answer sheet. It is generally administered prior to counseling. The time required to administer the MIQ paired form averages about 35 minutes. Average administration time for the MIQ ranked form is about 20 minutes.

Scoring

Hand scoring is possible, but the complexity of the scoring process makes it impractical. Computer scoring is available through Vocational Psychology Research at the University of Minnesota (see Availability section for the address).

Scorings are reported for adjusted scale values for the 20 need dimensions, for total circular triads (TCT), and for error bands. Adjusted score values indicate which needs are important (unimportant) and their degree of importance (unimportance). Circular triads represent some indecision on the individual's part. Error bands indicate the limits to which the adjusted scale value could change if the individual were to respond in a

perfectly logical and consistent manner. There is also a Correspondence Report Section of the MIQ report. It presents information about the fit of the individual's need profile with the Occupational Reinforcer Patterns (ORP's) for benchmark occupations.

Due to the sophistication of the MIQ, it must be interpreted only by trained professional personnel. Appreciation of its capabilities and limitations requires a thorough grasp of the technical nature of the instrument and a competence in reading and interpreting research studies on the MIQ.

Reliability

The reliability of the MIQ was evaluated in three ways: (1) the internal consistency of the scale, (2) the stability of the MIQ scale scores over time, and (3) the stability of MIQ profiles over time. Reliability data on the 1967 MIQ supports the conclusion that it is reliable enough to be useful to the vocational rehabilitation counselor.

Scale internal consistency was investigated by calculating the Hoyt reliability coefficient for each MIQ scale for nine different student groups. The median scale Hoyt reliability coefficient for the nine groups ranged form .77 to .81. The lowest reported single scale reliability for any group was .30, and the highest (found in three groups) was .95. These data indicate that the individual scales have sufficient internal consistency reliability to meet usually accepted standards. However, other types of reliability are more meaningful for use with the pair-comparison MIQ.

Hendel & Weiss (1970) also investigated the stability of MIQ scale scores for different test-retest intervals, ranging from an immediate retesting for one group to a ten-month retest for another group. The median scale stability coefficient ranged from .48 for the six-month interval to .89 for immediate retesting. The lowest reported scale stability coefficient was .19 (for a nine-month interval) and the highest was .93 (immediate retest). The range of scale stability coefficients for the longest interval studied (ten months) was from .46 to .79 with a median of .53.

From a counseling standpoint, the stability of score profiles is at least as important as that of scale scores. Hendel and Weiss (1970) report MIQ profile stability coefficients for time intervals ranging from immediate retesting to ten months. The median stability coefficient ranges from .95 for immediate retest to .70 for the four-month retest interval. The lowest profile stability coefficient reported for one individual was -.44 (a high school student in the six-month retest group) and the highest was .98 (two college sophomores in the one-week and two-week retest interval groups). For the ten-month retest interval (the longest interval studied), profile stability correlations ranged from .58 to .97 with a median of .87.

These results indicate that MIQ profiles are relatively stable over periods approaching one year. The data also show that MIQ profiles are more stable than MIQ scale scores, suggesting that profile analysis is a more useful basis for interpretation than the analysis of scale scores.

Validity

The discriminant validity of the MIQ is reflected in the scales' intercorrelations and the factor structure of the MIQ scales. The evidence shows that the MIQ measures a number of discriminably different dimensions. Thus, new information is contributed by each of the MIQ scales.

The relationship of the MIQ to the General Aptitude Test Battery (GATB), a multifactor measure of abilities, was found to be low (cross-correlations clustered around zero with few exceeding .30). The MIQ's relationship to the Strong Vocational Interest Blank (SVIB) was high (using the 1965 form of the MIQ on VR applicants, canonical correlations of .74 were obtained). These findings support the theoretical framework of the MIQ.

Validity was also examined by looking at how different groups perform. Data are available on nine different groups: (1) vocational counselors (N = 317), (2) retail trade workers I (from one large work organization, N = 1,897), (3) retail trade workers II (from another large work organization, N = 578), (4) vocational rehabilitation clients (N = 1,621), (5) high school counselors (N = 71), (6) high school students (N = 71), (7) college students (N = 71), (8) low socioeconomic status college students (N =125), and (9) vocational-technical high school women (N = 285). Adjusted scale value mean differences among these groups were evaluated by an unweighted one-way analysis of variance for each of the 20 MIQ scales separately. Statistically significant differences were observed for all 20 MIQ scales. The largest differences occurred for supervision - human relations, security, activity, compensation, and working conditions. For these scales, the differences were produced by the relatively high scores of the retail workers contrasting with the low scores of the students, both high school and college. In other words, the contrast was between those who had experienced work and those who had not, a finding in accord with expectations from the Theory of Work Adjustment. (The theory is discussed briefly below.)

In a related study, Gay and Weiss (1970) examined the relationship between MIQ scale values and amount of work experience (indicated by number of past jobs) for the group of 1,621 vocational rehabilitation clients. Using one-way analysis of variance, they found that persons with different amounts of work experience tended to have different levels of MIQ scale values, the overall level of MIQ scale values differed with differing work experiences, and the TCT score tended to decrease with increasing work experience, suggesting an increase in the clarification of need structures.

The MIQ was developed in the context of the Theory of Work

Adjustment (Dawis, Lofquist, and Weiss, 1968). In part, the theory states that job satisfaction is predicted by the correspondence between an individual's needs and the reinforcers in the work environment. A number of studies, involving differing fields and levels of occupations support the validity of correspondence between MIQ need profiles and Occupational Reinforcer Patterns as a predictor of job satisfaction (Rounds & Dawis, 1975; Rounds, et al., 1976)

Advantages

Norms permit comparisons with 148 occupations selected to be representative of the major levels and fields of the world of work. Also, the booklet and answer sheet can be read by the average fifth grader, and Spanish and French editions are available. Finally, a lot of research has been done with the MIQ.

Limitations

The questionnaire cannot be hand scored practically, and it is difficult to have the computer scoring done locally. Also, the measure was developed in the context of the Theory of Work Adjustment; it is most useful in that context.

References

Dawis, R.V., Lofquist, L.H., Henly, G.A., & Rounds, J.B., Minnesota Occupational Classification System II. Minneapolis, Minnesota: Vocational Psychology Research, Department of Psychology, University of Minnesota, 1979.

Dawis, R.V., Lofquist, L.H., & Weiss, D.J. A theory of work adjustment (a revision). Minnesota Studies in Vocational Rehabilitation: XXIII, 1968.

Gay, Evan G., Weiss, David J., Hendel, Darwin D., Dawis, Rene, & Lofquist, Lloyd H. Manual for the Minnesota importance questionnaire. Minnesota Studies in Vocational Rehabilitation: XXVIII, 1971.

Hendel, Darwin D. & Weiss, David J. Individual inconsistency and reliability of measurement. Educational and Psychological Measurement, 1970, 30, 579-593.

Rounds, J.B., Jr., & Dawis, R.V. A comparison of need-reinforcer correspondence indices as predictors of job satisfaction (research report no. 48). Minneapolis, Minnesota: Work Adjustment Project, Department of Psychology, University of Minnesota, 1975.

Rounds, J.B., Jr., Henly, G.A., Dawis, R.V., Lofquist, L.H., & Weiss, D.J. Minnesota importance questionnaire user manual. In press, 1981.

Rounds, J.B., Jr., Sloan, E.B., Dawis, R.V., & Lofquist, L.H. Work adjustment project follow-up study preliminary findings (research report no. 50). Minneapolis, Minnesota: Work Adjustment Project, Department of Psychology, University of Minnesota, 1976.

Availability

The MIQ, as well as computer scoring services, can be purchased from ---

Vocational Psychology Research
N620 Elliott Hall
University of Minnesota
75 East River Road
Minneapolis, MN 55455

A new manual for the MIQ is currently being prepared.

MINNESOTA IMPORTANCE QUESTIONNAIRE

PAIRED FORM

Directions

The purpose of this questionnaire is to find out what you consider important in your ideal job, the kind of job you would most like to have.

On the following pages you will find pairs of statements about work.
- Read each pair of statements carefully.
- Decide which statement of the pair is more important to you in your ideal job.
- For each pair mark your choice on the answer sheet. Do not mark this booklet. (Directions on how to mark the answer sheet are given below.)

Do this for all pairs of statements. Work as rapidly as you can. Read each pair of statements, mark your choice, then move on to the next pair. Be sure to make a choice for every pair. Do not go back to change your answer to any pair.

Remember: You are to decide which statement of the pair is more important to you in your ideal job. Mark your choice on the answer sheet, not on this booklet.

Ask yourself: Which is more important to me in my ideal job?

a. I could be busy all the time
1. OR
b. The job would provide an opportunity for advancement.

a. I could try out some of my own ideas.
2. OR
b. My co-workers would be easy to make friends with.

a. The job could give me a feeling of accomplishment.
3. OR
b. I could do something that makes use of my abilities.

a. The company would administer its policies fairly.
4. OR
b. I could be busy all the time.

a. I could try out some of my own ideas.
5. OR
b. I could be "somebody" in the community.

a. The job would provide an opportunity for advancement.
6. OR
b. My co-workers would be easy to make friends with.

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RANKED FORM

Directions

The purpose of this questionnaire is to find out what you consider important in your ideal job, the kind of job you would most like to have.

On the following pages are groups of five statements about work.

- Read each group of statements carefully.
- Rank the five statements in each group in terms of their importance to you in your ideal job.
- Use the number "1" for the statement which is most important to you in your ideal job, the number "2" for the statement which is next most important to you, and so on.
- Use the number "5" for the statement least important to you in your ideal job.
- Write down your rankings in the correct spaces on the answer sheet.

group 1

On my ideal job...

a. I could be busy all the time.
b. I could do things for other people.
c. I could try out some of my own ideas.
d. my pay would compare well with that of other workers.
e. the job would provide an opportunity for advancement.

group 2

On my ideal job...

a. I could do things for other people.
b. I could do something different every day.
c. the job could give me a feeling of accomplishment.
d. my boss would train the workers well.
e. the company would administer its policies fairly.

group 3

On my ideal job...

a. I could do the work without feeling that it is morally wrong.
b. my boss would back up the workers (with top management).
c. I could do something different every day.
d. I could do something that makes use of my abilities.
e. I could be busy all the time.

group 4

On my ideal job...

a. the company would administer its policies fairly.
b. I could try out some of my own ideas.
c. I could do something that makes use of my abilities.
d. my co-workers would be easy to make friends with.
e. I could be "somebody" in the community.

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PUBLIC ASSISTANCE RECIPIENT'S PERCEPTION INVENTORY (PARPI)

Developer(s) The PARPI was developed by Fredric T. Schlamp of the California Department of Rehabilitation.

Purpose The PARPI assesses VR client's attitudes about or perceptions of their disabilities in relation to the work environment.

Description The scale contains 22 multi-point agree/disagree statements. The 22-item scale is grouped into six major areas: withdrawal reaction, neurotic reaction, dependency reaction, survival reaction, work valuation, and self-confidence. It assesses the client's perception of community and service agency attitudes and environmental factors influencing the client's work prospects in the community.

Use The PARPI was designed for use with rehabilitation clients who had been accepted for service and who were also known to have been receiving public assistance payments. However, the developer feels that it could be used -- at least on a trial basis -- with all rehabilitation clients, as the items appear to be almost exclusively related to the client's disability rather than the receipt of welfare.

The scale was developed primarily to assist the counselor in understanding the outlook of individual clients and in tailoring rehabilitation services to the needs of those clients. Program managers may also find the measure useful in providing an indication of problem areas and service needs at the program level.

Administration The PARPI is a self-report instrument that can be completed in five minutes. It can be administered by anyone and can even be mailed to the client. It may be administered during intake into the VR system. Additional administrations may reveal changes in maturity and outlook.

Scoring The items are rated on a 5-point agree/disagree scale. Each response is assigned a weight of 1 to 5, depending on the directionality of the item. The scores are simply the cumulative summation of all of the item scale values within a subscale or the entire scale.

Reliability Factor analysis was used in the selection of items in an effort to support reliability and validity. However, no further evidence of reliability was compiled.

Validity Factor analysis was used in the selection of items in an effort to support reliability and validity. However, no further evidence of validity was compiled.

Advantages — A major advantage is that the PARPI provides counselors with an early indication of how clients perceive their disabilities as related to the work environment. If interviews are conducted at intake, a 100% participation is guaranteed.

Limitations — While the instrument provides client perceptions of employment potential, self-concept, and service agency attitudes, objective validation of these attitudes is not presented. Evidence of reliability and validity needs to be compiled.

References

Bassett, Paul T. Measurement of outcome: A report from the study group on measurement of outcome. First Institute on Rehabilitation Issues, Denver, Colorado, April 15-17, 1974. Institute, West Virginia: Research and Training Center, 1974.

Schlamp, F. Rehabilitation research report number 27: The development of a public assistance recipient perception inventory (PARPI). Sacramento, California: Department of Rehabilitation, State of California.

Availability — Copies of the PARPI and a complete report can be obtained from ---

The Institute for the Study of
Family Life and Mental Health
2205 Meadowview Road
Sacramento, CA 95832

PUBLIC ASSISTANCE RECIPIENT PERCEPTION INVENTORY

Your opinion is important to our program staff and to our employees working with the community programs in this city. Please be honest. Indicate your agreement or disagreement with the following statements by checking in one of the boxes to the right of the statement. This is for use in improving our services, and will not be recorded as part of your rehabilitation plan. You need not sign your name.

	Agree		Don't agree or dis-agree	Disagree	
	Very much	Some what		Some what	Very much
1. Most bosses feel that people on welfare want to work					
2. Getting training is a waste of time when there aren't any jobs.					
3. Money is about the only thing you can expect in return for your work					
4. A person should be very particular about the kind of job he takes					
5. The best job you can have is one where you are part of the group, all working together even if you don't get much individual credit					
6. When I work I make enough money to take care of myself and my family.					
7. My physical health is good					
8. Bosses won't hire people who haven't worked for a long time and are on welfare					
9. It seems like bosses are always looking for someone to bawl out.					
10. I take pains not to get people mad at me					
11. If possible, I have my friends with me wherever I go					
12. I like difficult tasks more than easy ones					
13. It bothers me to see someone else bungling a job I know perfectly well how to manage.					

14.	My feelings get hurt easily when I am scolded or criticized					
15.	It is better for me to have some job so I can support myself					
16.	I can get a job on my own without training					
17.	I do not feel up to working now.					
18.	Some people who work in rehabilitation offices seem to think a person with health problems is stupid					
19.	When workers get laid off, people with health problems are the first to be let go.					
20.	I feel my life is not very useful.					
21.	I am able to do things as well as most other people. . .					
22.	I don't want to be obligated to others					

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SELF-CONCEPT OF THE MENTALLY RETARDED Q-SORT

Developer(s)

The procedure was developed from 1972-1974 by Roger M. Nooe of the School of Social Work at the University of Tennessee in Knoxville.

Purpose

The scale is designed to measure the change in self-concept of mentally retarded persons with regard to their readiness for community living.

Description

The instrument consists of 24 pairs of statements reflecting opposing self-characterizations. Each statement appears on a separate card, hence 48 cards in total. As indicated, self-concept as it relates to the mentally retarded client's readiness for community living is assessed. The cards relate to serious aspects of self-perception (e.g., I am a good person vs. I am a bad person, I am smart enough vs. I am dumb, I like to decide things for myself vs. I always like others to decide for me).

Use

While the procedure is designed to be used with mentally retarded adults, the developer suggests that it is useful with other groups. It would seem to be appropriate in sheltered workshops, rehabilitation facilities, and educational facilities.

The instrument is useful to both case managers and program managers. The results can alert the case manager to specific needs of individual clients, progress made, and readiness for community living. It is useful to the program manager in assessing the impact or effectiveness of program strategies.

It should be noted that the developer wanted to demonstrate how evaluation instruments can be tailored. Therefore, interested parties should feel free in following this procedure by collecting statements from their own population or by adding pairs of statements to those contained in this instrument.

Administration

This is a self-report procedure wherein the client places all of the cards in two piles (e.g., true, like me and false, unlike me). The cards are first administered within two weeks after arriving at the project and again six months later. At the second testing most clients were in the process of making plans to move into the community. The cards were administered as a Q-sort procedure. Time required is approximately 30 minutes.

Scoring

The scoring can be done by hand and takes approximately five minutes. Frequencies of positive and negative characterizations are determined. These cumulative positives and negatives are compared at different times in the program. Interpretation

of the results can be made by someone trained in social work or psychology.

Reliability A reliability study was conducted but no data were reported in the materials reviewed.

Validity The validity of the cards was assessed by an independent judge who ranked residents of a transitional living facility for mentally retarded adults on the basis of positive self-concept. A Spearman rank correlation of .75 (significant at .05) was attained between the judge's ranking and a rank order based on each resident's selection of positive items.

The ability of the Q-sort cards to assess readiness for community living is reflected by the fact that those residents who selected a high number of positive items and a low number of negative items moved to a higher level of independence than those residents who selected a low number of positive items and a high number of negative ones.

A further inspection of the data indicated that an association exists between positive self-rating and movement toward higher levels of independence. To compute the correlation between resident movement and the Q-sort differential score, a Spearman rank correlation coefficient was used and recorded rho = .80, ($p < .05$). The data support a relationship between self-concept and independent living and suggest that the approach has predictive validity.

Advantages A fifth-grade reading ability is necessary to complete the task. However, the statement can be read aloud by the client or the examiner; therefore, reading deficiencies do not interfere with responses. Second, the procedure is specifically designed for retarded adults. Third, the procedure relates to skills necessary in successful community living. Fourth, since the statements were originally developed from lists of client statements, it overcomes the major weakness of self-concept scales that reflect the bias of the researcher instead of the thinking of the subject.

Limitations The reliability and validity have been measured with very small samples. Replication with larger samples is necessary.

References Nooe, Roger M. Measuring self-concept of mentally retarded adults. Social Work, 1977, 22 (4), 320-22.

Availability A listing of the 24 pairs of statements used in this procedure can be obtained from ---

Roger M. Nooe, D.S.W.
The University of Tennessee
School of Social Work -- Knoxville Branch
905 Mountcastle Street
Knoxville, TN 37916

SELF-CONCEPT OF THE MENTALLY RETARDED Q-SORT

1. I think that I look O.K.
2. I do not like the way I look.
3. I am a good person.
4. I am a bad person.
5. I am as good as other people.
6. Other people are better than me.
7. I think that it is alright to feel angry sometimes.
8. I think that it is wrong to ever feel angry.
9. I am smart enough.
10. I am dumb.
11. My feelings are not hurt too often.
12. My feelings are hurt almost everyday.
13. I can hold a job.
14. I cannot hold a job.
15. I want to do things for myself.
16. I do not want to do things for myself.
17. I can learn about new things.
18. I cannot learn about new things.
19. I want to do my own grocery shopping.
20. I want someone to do grocery shopping for me.
21. I want a job instead of a welfare check.
22. I want a welfare check instead of a job.
23. I like to go to new places.
24. I do not like to go to new places.
25. Everyday I do things better.
26. Everyday I do things worse.
27. I sometimes make mistakes.
28. I never make mistakes.
29. I am a healthy person.
30. I am a sick person.
31. Things should be better for me in the future.
32. Things will be worse for me in the future.
33. I enjoy being with (girls) (boys).
34. I do not like being with (girls) (boys).
35. I have some friends.
36. I do not have any friends.
37. I can tell other people what I think.
38. I cannot tell other people what I think.
39. Sometimes I like to do things by myself.
40. I never like to do anything by myself.
41. I can make friends.
42. I cannot make friends.
43. I like to meet people.
44. I do not like to meet people.
45. I would ask someone if I need directions.
46. I would not ask anyone for directions.
47. I like to decide things for myself.
48. I always like other people to tell me what to do.

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MEASURES OF CLIENT SATISFACTION

CONSUMER'S MEASUREMENT OF VOCATIONAL REHABILITATION
FORMS B AND B-I

Developer(s)

Forms B and B-I were developed by William G. Hills and Harold D. Vialle at the Regional Rehabilitation Research Institute in Administration and Management at the University of Oklahoma. Form B-I was copyrighted in 1973 and Form B was revised and finalized in the mid 1970's.

Purpose

Both instruments are designed to measure client satisfaction with agency services and thus program evaluation. They are not intended for use in the evaluation of specific counselors.

Description

Form B (Consumer Measurement Scale) contains 28 core items covering nine factors/phases of the rehabilitation program. The majority of the items are multi-point satisfaction - dissatisfaction scales. Client satisfaction is purported to be measured along the following dimensions: speed of services, medical services, training services, employment satisfaction, participation in planning, counselor effort in placement, agency policies, physical facilities, and personal treatment. Additional demographic and open-ended items are also included. Form B-I (Follow-up Questionnaire) contains 17 items that seek information on the client's employment and the role of vocational rehabilitation in helping him/her obtain that employment. All but one of the items are multi-point; one is open-ended.

Use

The instruments are appropriate for all VR clients and are designed primarily for use in the state-federal VRS. Both forms are designed for program evaluation -- comparing one district office with other district offices; comparing the relative ratings of internal factors such as counselor effort in placement, participation in planning, agency policies, etc., with external factors -- those supplied by persons outside the direct control and responsibility of the agency -- such as medical treatment and training, etc.; and comparing the actual relative rankings with the relative rankings that district office managers and field service chiefs thought would be the outcome.

The instruments attempt to assess important aspects of the rehabilitation process as an aid to case managers and program managers. The instruments are useful in determining the client's perception of how effectively program resources, including rehabilitation counselors, are used to attain program goals.

Administration

Forms B and B-I are self-report questionnaires which are completed by the client and returned in the mail. The instruments are administered after closure and can be completed in a minimal amount of time.

Scoring

The scoring of the core items involves the assignment of negative points for responses indicating dissatisfaction and positive points for responses indicating satisfaction. This allows a profile to be drawn which shows the general satisfaction of consumers on the nine factors as well as their satisfaction on each factor. The scale ranges from -2 (very dissatisfied) to a +2 (very satisfied). Zero signifies a neutral response. The levels of satisfaction can be delineated further: "low" areas of satisfaction range from 0 to +.70, "medium" areas range from +.71 to +1.40, and "high" areas range from +1.41 to +2. The same weights, only negative, apply to the levels of dissatisfaction. These weighted areas of satisfaction may vary with each agency analysis due to the variance of the population.

The scores can then be examined in terms of trends, movement from one year to the next, and the relative scores on one variable as contrasted with another variable -- and in light of the mission, goals, and plans of the agency.

The core items can be machine or hand scored.

Reliability

The developers present the following in support of the reliability of Form B. The core items are professionally objective, based on the input of rehabilitation professionals. The original 48-item questionnaire was developed from a list of over 100 items submitted by over 30 counselors, supervisors, middle management personnel, chiefs of field services, and state directors of vocational rehabilitation. Data was then gathered on the original 48-item questionnaire in three states from six fiscal years. Factor analysis was performed to improve the measure. Twenty-eight items were maintained in Form B; the factor loadings for all items were above .40 and all of the items clustered together within subcategories.

Also, responses on the 28 core items were compared to the open-ended additional comments item. The additional comments were categorized into satisfied, neutral, and dissatisfied groups. There was a statistically significant ($p < .001$) direct relationship between the comments and the responses on the 28 core items. Highly satisfied clients as measured by the core items were highly satisfied as reflected by the additional comments.

Validity

The developers present the following in support of the validity of Form B. The original 48-item questionnaire was developed from a list of over 100 items submitted by over 30 counselors, supervisors, middle management personnel, chiefs of field services, and state directors of vocational rehabilitation. Data involving three states were analyzed from six fiscal years. Factor analysis was performed to improve the measure. Twenty-eight items were maintained in Form B; the factor loadings for all items were above .40 and all of the items clustered together within subcategories.

Advantages — Both forms rely on self-report and can be completed quickly.

Limitations — The instruments are not designed to measure client change. They are not intended for client evaluation but for program evaluation -- to evaluate the parts and whole of the agency as a means of improving the public administration of the funds and personnel working in the public sector of vocational rehabilitation.

References

Bassett, P. T. Measurement of outcomes: A report from the study group on measurement of outcomes. First Institute on Rehabilitation Issues, Denver, Colorado, April 15-17, 1974. Institute, West Virginia: Research and Training Center, 1974.

Factor analysis of consumer's satisfaction reduction of items on the questionnaire. Unpublished manuscript.

Program Analysis Section, North Carolina Division of Rehabilitation Services. Consumer's measurement of vocational rehabilitation services: A pilot study in south central region, phase I report. Raleigh, North Carolina: Author, February, 1975.

Availability — The instruments and other pertinent information can be obtained from ---

William G. Hills, Ph.D.
1005 - 18th Avenue South
Cranbrook, British Columbia
CANADA V1C 4S1

CONSUMER'S MEASUREMENT OF VOCATIONAL REHABILITATION
FORM B: CONSUMER MEASUREMENT SCALE
(REVISED)

Thank you for your time and assistance. Your response to this questionnaire will be kept confidential and will be interpreted only to identify the strengths and weaknesses of rehabilitation services.

Please complete the following 28 questions while asking yourself:
How satisfied am I with this aspect of rehabilitation service?

Very sat. means I am very satisfied.
Sat. means I am satisifed.
N. means I can't decide whether I am satisfied or not.
Dissat. means I am dissatisfied.
Very dissat. means I am very dissatisfied.
D.N.A. means this item does not apply to me.

Please place a check mark in the box that best explains how you feel about each statement.

	Very Sat.	Sat.	N	Dissat.	Very Dissat.	D.N.A.
1. The quality of training I received...	___	___	___	___	___	___
2. My counselor's willingness to listen to my ideas and suggestions.....	___	___	___	___	___	___
3. The time it took to approve me for service.....	___	___	___	___	___	___
4. The amount of training I received....	___	___	___	___	___	___
5. The office location.....	___	___	___	___	___	___
6. Quality of medical services.....	___	___	___	___	___	___
7. Benefit of training I received.....	___	___	___	___	___	___
8. The employment I now have.....	___	___	___	___	___	___
9. Promptness of medical service.....	___	___	___	___	___	___
10. Kind of training I received.....	___	___	___	___	___	___
11. Vocational Rehabilitation's ability to make decisions.....	___	___	___	___	___	___
12. The office itself.....	___	___	___	___	___	___
13. My counselor's discussing with me different jobs and job openings.....	___	___	___	___	___	___
14. My part in planning for my job.....	___	___	___	___	___	___

| | Very Sat. | Sat. | N | Dissat. | Very Dissat. | D.N.A. |

Sex: Male ☐ Female ☐ Age _____

Disability _____ Present Job _____

Last grade completed in school _____ Years completed in college _____

Other training you have received _____

Race: White ☐ Negro ☐ Indian ☐ Spanish ☐ Other ☐

Referral: I referred myself to VR ☐ Someone else referred me ☐

Please answer each of the following:

(1) Would you return to Vocational Rehabilitation (VR) should you again have need of VR services? Yes ☐ No ☐

(2) Do you think the services provided by VR helped you get a better job than you would have found without VR services? Yes ☐ No ☐

(3) In your contact with VR, did you ever in any way experience discrimination? Yes ☐ No ☐

How do you think rehabilitation services could be improved? _____

_____

_____

Additional Comments: _____

_____

_____

_____

_____

We are interested in knowing what happens to people after rehabilitation services end. Would you be willing to complete another questionnaire for us about six months from now? Yes ☐ No ☐

If yes, please print your name and address so we can send you the follow-up questionnaire

Name _____

Address _____

Street City State Zip Code

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CONSUMER'S MEASUREMENT OF VOCATIONAL REHABILITATION

FORM B-1: FOLLOW-UP QUESTIONNAIRE

Today's Date _____

1. Are you employed at this time? Yes _____ No _____

   Note: If no, please skip questions 2, 3, and 4.

2. Are you working for the same employer you were six months ago?

   Yes _____ No _____

3. Are you doing the same kind of work you were doing six months ago?

   Yes _____ No _____

4. How satisfied are you with your present job?

   Very Satisfied _____ Satisfied _____ Neutral _____

   Dissatisfied _____ Very Dissatisfied _____

5. How many months during the last six have you been employed?

   0 _____ 1 _____ 2 _____ 3 _____ 4 _____

   5 _____ 6 _____

6. How many jobs have you had in the last six months?

   0 _____ 1 _____ 2 _____ 3 _____ 4 _____

   5 _____ 6 or more _____

7. Have you again applied for rehabilitation services?

   Yes _____ No _____

8. What else could the Vocational Rehabilitation program have done that would have been of help to you in finding or keeping suitable employment?

   _____

   _____

Ask Yourself: How satisfied am I with this aspect of rehabilitation services?

Very sat. means I am very satisfied.
Sat. means I am satisfied.
N means I can't decide whether I am satisfied or not.
Dissat. means I am dissatisfied.
Very dissat. means I am very dissatisfied.
D.N.A. means this item does not apply to me.

Please place a check mark in the box that best explains how you feel about each statement.

Choose an answer for all statements.

IN MY EXPERIENCE WITH VOCATIONAL REHABILITATION, THIS IS THE WAY I FEEL ABOUT

		Very Sat.	Sat.	N	Dissat.	Very Dissat.	D.N.A.
9.	The time it took to get the services started	___	___	___	___	___	___
10.	Results of medical services.....	___	___	___	___	___	___
11.	The quality of training I received	___	___	___	___	___	___
12.	The employment I now have.....	___	___	___	___	___	___
13.	My counselor's willingness to listen to my ideas and suggestions	___	___	___	___	___	___
14.	The part my counselor played in actually helping me get my job....	___	___	___	___	___	___
15.	Vocational Rehabilitation's ability to make decisions.....	___	___	___	___	___	___
16.	Ease with which I could enter the office.....	___	___	___	___	___	___
17.	Personal treatment I received from Vocational Rehabilitation.....	___	___	___	___	___	___

Please put this questionnaire in the attached envelope and mail to the Regional Rehabilitation Research Institute. Thank you for your cooperation.

Questionnaire Number _____

District Number _____

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EMPLOYEE QUESTIONNAIRE OF THE WEST VIRGINIA FOLLOW-UP KIT

Developer(s)

The Employee Questionniare was developed at the West Virginia Rehabilitation Research and Training Center in 1974.

Purpose

The Employee Questionnaire is a follow-up instrument designed to assess client satisfaction with rehabilitation services, as well as a number of other factors related to employment.

Description

The instrument has five subscales and a total of 42 forced choice items. Items 1-11 are general questions regarding current work status and satisfaction with services. The first subscale, the Hoppock Job Satisfaction Blank (items 12-15), yields a global measure of job satisfaction. The Tseng Work Personality Subscale (items 16-26) yields a global measure of the individual's assessment of his or her own personal quality in the work situation. It assesses the following characteristics: ability to work with others, punctuality, cooperativeness, self-reliance, appearance, courtesy, motivation, reliability, work tolerance, initiative, and attitude toward job. The Tseng Work Proficiency Subscale (items 27-32) provides a measure of the individual's assessment of his or her work proficiency along the following areas of job knowledge, job skills, quality of work, care and operation of equipment, observance of safety practice, and compliance with work rules. The client's self-acceptance (items 33-35) and attitude toward work (items 36-38) are tapped by seven-point semantic differential scales making up the fourth and fifth subscales. Items 39-42 are relevant only for married clients.

The majority of the items are five-point ratings (e.g., agree/disagree or satisfied/dissatisfied); however, a minimal number require "yes-no" or objective responses (e.g., level of education, present employer, etc.).

Use

The instrument is appropriate for all former rehabilitation clients, and it was developed for use in the state-federal rehabilitation system. The instrument is beneficial to both case managers and program managers. Information about former clients' vocational status and VR's role in attaining that employment provides case managers with an indication of their effectiveness. This information provides program managers with an indication of the impact of the rehabilitation program upon clients, or program effectiveness. Other pertinent information gathered on the client's perception of the importance of work, relationships with significant others, and their perception of the world of work may provide rehabilitation workers with a more complete understanding of clients' success and failure and program success and failure. This information is beneficial in planning more successful programs.

Administration

The Employee Questionnaire is a self-report instrument which is administered after closure. It is recommended that the administration occur at least one year after closure in order to obtain some measure of the lasting impact of rehabilitation services. The instrument is mailed to former clients and they are instructed to complete and return them. It can be completed in approximately 15 minutes.

Scoring

The Employee Questionnaire data can be compiled in two ways: one for computer analysis and the other for hand or machine calculation. Either method uses the computation of totals, frequencies, averages, percents, and standard deviations. (Forms for compiling the data are included in the Follow-up Kit). If computer services are available, correlational analysis, t-tests, and analysis of variance may be used to strengthen evaluation reports.

Composite scores for job satisfaction, work personality, attitude toward work, and self-acceptance can be generated for groups of former clients. Composite scores are obtained by counting and then averaging all attributes associated with the particular factor. Then by adding the averages for the attributes, a composite score is derived. This permits comparisons of different groups of former clients (e.g., those closed in Status 26 and those closed in Statuses 08, 28, or 30). Comparisons of the perceptions of former clients and their respective employers is possible with the use of the Employee Questionnaire and the Employer Questionnaire, also part of the West Virginia Follow-up Kit.

Reliability

Reliability data are available for some of the subscales:

The Hoppock Job Satisfaction Blank (items 12-15 on the Employee Questionnaire) is reported to have the split-half reliability of .87, corrected by the Spearman-Brown formula to .93 (N = 103). The Tseng Work Personality Subscale (items 16-26 on the Employee Questionnaire) has the split-half reliability with the Spearman-Brown correction of .80 (N = 113). The Tseng Work Proficiency Subscale (items 27-32 on the Employee Questionnaire) has the split-half reliability with the Spearman-Brown correction of .87 (N = 113). The total Tseng scale, the composite of work personality and work proficiency subscales, has the split-half reliability with the Spearman-Brown correction of .88 (N = 113).

The Tseng Work Personality Subscale has the internal consistency as measured by Cronbach's alpha of .86 (N = 113). The Tseng Work Proficiency Subscale has an internal consistency as measured by Cronbach's alpha of .84 (N = 113). The total Tseng scale, the composite of work personality and work proficiency subscales, has the internal consistency (Cronbach's alpha) of .89 (N = 113).

Validity

Evidence of validity is available on one of the subscales:

The Hoppock Job Satisfaction Blank (items 12-15 on the

Employee Questionnaire) and a 31-item General Job Satisfaction Scale developed by the University of Minnesota Industrial Relations Center were administered to a sample of former clients of the West Virginia Rehabilitation Center. A very high correlation of .93 ($N = 52$, $p < .001$) was obtained between the two job satisfaction measures.

Advantages

Some of the advantages of the Employee Questionnaire include the following: it is self-administered; attitudes and opinions requested provide information about relevant and significant concerns of rehabilitation agencies, rather than simply asking if clients liked the services; and the manual's specificity and comprehensiveness make it a valuable asset to users who choose to modify or develop their own questionnaires.

Limitations

Some of the limitations of the instrument include the following: since no pre-measure is made, change cannot be adequately demonstrated; considering the length of the instrument, it is unlikely that the response rate will be great if mailed; and the use of the instrument in personal interviews seems impractical due to the expense.

References

Bassett, P. T. Measurement of outcomes: A report from the study group on measurement of outcomes. First Institute on Rehabilitation Issues, Denver, Colorado, April 15-17, 1974. Institute, West Virginia: Research and Training Center, 1974.

Greever, K. B., Minton, E. B., & Tseng, M. S. Follow-up study of rehabilitation clients - a step-by-step guide. Institue, West Virginia: Research and Training Center, 1974.

Availability

The West Virginia Follow-up Kit, including the Employee Questionnaire and the Employer Questionnaire, can be obtained from ---

Publications Department
West Virginia Rehabilitation
Research and Training Center
One Dunbar Plaza, Suite E
Dunbar, WV 25064

In addition to the questionnaires mentioned above, the kit contains information on planning and conducting a follow-up study, sampling, analyzing the data, and writing the report.

SAMPLE ITEMS

EMPLOYEE QUESTIONNAIRE

13. Circle ONE of the following to show how much of the time you feel satisfied with your job.

    1. All the time
    2. Most of the time
    3. A good deal of the time
    4. About half of the time
    5. Occasionally
    6. Seldom
    7. Never

15. Circle ONE of the following to show how you think you compare with other people.

    1. No one likes his job better than I like mine.
    2. I like my job much better than most people like theirs.
    3. I like my job better than most people like theirs.
    4. I like my job about as well as most people like theirs.
    5. I dislike my job more than most people dislike theirs.
    6. I dislike my job much more than most people dislike theirs.
    7. No one dislikes his job more than I dislike mine.

16. I don't have trouble with my co-workers.

    1. Strongly agree
    2. Agree
    3. Uncertain
    4. Disagree
    5. Strongly disagree

17. I go to work on time and return from breaks on time.

    1. Strongly agree
    2. Agree
    3. Uncertain
    4. Disagree
    5. Strongly disagree

18. I get along well with my supervisor.

    1. Strongly agree
    2. Agree
    3. Uncertain
    4. Disagree
    5. Strongly disagree

19. I get my work done without being told by my supervisor.

    1. Strongly agree
    2. Agree
    3. Uncertain
    4. Disagree
    5. Strongly disagree

27. I think my knowledge about my job is

1. Very good
2. Good
3. Fair
4. Poor
5. Very Poor

28. My work skill in the trade is

1. Very good
2. Good
3. Fair
4. Poor
5. Very poor

34. I myself am

1. Extremely satisfied
2. Quite satisfied
3. Slightly satisfied
4. Neither satisfied nor dissatisfied
5. Slightly dissatisfied
6. Quite dissatisfied
7. Extremely dissatisfied

37. The world of work is

1. Extremely important
2. Quite important
3. Slightly important
4. Neither important nor unimportant
5. Slightly unimportant
6. Quite unimportant
7. Extremely unimportant

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MINNESOTA SATISFACTION QUESTIONNAIRE (MSQ)

Developer(s)

The MSQ was developed by David J. Weiss, Rene V. Dawis, George W. England, and Lloyd H. Lofquist at the University of Minnesota and revised and copyrighted by Vocational Psychology Research at the University of Minnesota in 1977.

Purpose

The MSQ is designed to measure an individual's satisfaction with his/her job.

Description

The MSQ (long form) consists of 100 items, each referring to a reinforcer in the work environment. The client is asked to indicate how satisfied he/she is with the reinforcer on his/her present job on a five-point Likert-type scale.

The MSQ consists of 20 scales, each consisting of five items: ability utilization, achievement, activity, advancement, authority, company policies and practices, compensation, co-workers, creativity, independence, moral values, recognition, responsibility, security, social service, social status, supervision-human relations, supervision-technical, variety, and working conditions. A general satisfaction scale is also embedded in the items.

Use

The MSQ is appropriate for use with vocational rehabilitation clients and/or employed persons in any setting. Counselors and program managers alike can benefit from the information this measure yields. Counselors can monitor their own effectiveness in finding clients jobs that consider their individual needs. The effectiveness of counselors and various counseling techniques can be assessed using these data as outcome measures. Also, when systematic follow-up studies are conducted, new data, along with norm group data already available, can be examined to better identify those reinforcers that are important in different jobs. Then vocational plans can be established that consider and enhance client satisfaction and keep him/her on the job longer.

A short-form MSQ is also available. It consists of 20 items and yields three scales -- intrinsic satisfaction, extrinsic satisfaction, and general satisfaction. It takes about five minutes to complete, and some norms are available. However, the long form is preferred whenever possible because of the increased information obtained for only a small difference in administration time.

Scoring

Responses are weighted from 1 to 5. Raw scales are determined by summing the weighted scores for those items in the scale. An individual's scores for the scales can then be ranked and interpreted relatively.

Raw scores for the various scales can also be converted to percentile scores based on the most appropriate norm group for the individual -- that is, those in jobs that correspond exactly to the client's job. Conversion tables are available for specific jobs within the following broad categories: professional, technical, managerial; clerical, sales; service; bench work; miscellaneous. If norms are not available that match the client exactly, (1) select with care a group that is very similiar to the client, considering a number of characteristics -- tools and materials used, tasks performed, type of supervision, rate of pay, and physical working conditions; or (2) use the broader "Employed Disabled" or "Employed Non-disabled" norms. Ordinarily, a percentile score of 75 or higher is considered to reflect a high degree of satisfaction, 26 or lower indicates a low degree of satisfaction, and scores in the middle indicate average satisfaction.

The MSQ can be hand scored using information provided in the manual. Computer scoring is also available from Vocational Psychology Research at the University of Minnesota (see Availability section for address). Output from scoring can include raw scores by individual, printed and/or on punched cards, and group means, standard deviations, and reliabilities. Additional analyses (e.g., group differences in scale scores, intercorrelations, etc.) can be arranged.

Reliability

Internal consistency as measured by Hoyt's analysis of variance method yields reliability coefficients on 27 normative groups for the MSQ scales ranging from .59 to .97 with medians ranging from .78 to .93. Of 567 coefficients reported, 83% were .80 or higher and only 2.5% were lower than .70. Because the reliability of some scales tends to vary across groups, it is recommended that coefficients be computed for a sample of the group on which the MSQ is used.

Test-retest correlation coefficients for the scales were obtained for two time intervals -- one week and one year. The one-week interval group consisted of 75 employed night school students in psychology and industrial relations courses and yielded stability coefficients for the scales ranging from .66 to .91 with a median coefficient of .83. The one-year interval group consisted of 115 employed individuals and was heterogeneous with respect to the presence or absence of disability as well as type of disability. Stability coefficients ranged from .35 to .71 with a median coefficient of .61.

Validity

Concurrent validity was examined by looking at group differences in satisfaction. Mean differences were tested by one-way analysis of variance, and differences in variability were tested by Bartlett's test of homogeneity of variance. 25 occupational groups were studied (N = 2,955) and group differences were significant at the .001 level for both means and variances on all 21 scales, indicating that the MSQ scales can differentiate among occupational groups.

Differences in satisfaction between those with disabling conditions and those without were also examined. Statistically significant differences (at the .05 level or less) in mean satisfaction levels occured on 11 of the 21 scales, with the disabled group scoring significantly lower than the non-disabled group. Means on the remaining 10 scales also yielded consistently lower scores for the disabled group but were not statistically significant. Differences in variability were statistically significant on 10 of the 21 scales, with the disabled group reflecting more variability. On 10 of the remaining 11 scales, variability was consistently higher for the disabled group but was not statistically significant.

The developers report construct validity that is drawn from the Theory of Work Adjustment (Dawis, Lofquist, & Weiss, 1968), differences among occupational groups and factor analysis.

For the short form, the developers report validity that is inferred from the long form as well as validity established by the study of differences in occupational groups and studies of the relationship between satisfaction and satisfactoriness as specified by the Theory of Work Adjustment.

Advantages

The MSQ provides the option of a long or short form, is quickly administered, is understandable, and has had a lot of research done on it.

Limitations

The current manual is not complete enough and the norms are not up-to-date. A revised manual is being prepared. Also, the measure was developed in the context of the Theory of Work Adjustment (Dawis, Lofquist, & Weiss, 1968) and is most useful when used in that context.

References

Dawis, R. V., Lofquist, L. H., & Weiss, D. J. A theory of work adjustment (a revision). Minnesota Studies in Vocational Rehabilitation: XXIII, 1968.

Weiss, D. J., Dawis, R. V., England, G. W., & Lofquist, L. H. Manual for the Minnesota satisfaction questionnaire. Minnesota Studies in Vocational Rehabilitation: XXII, 1967.

Availability

Both the long form and short form of the MSQ, as well as computer scoring services, can be purchased from ---

Vocational Psychology Research
N620 Elliott Hall
University of Minnesota
75 East River Road
Minneapolis, MN 55455

A new manual for the MSQ is currently being prepared.

SAMPLE ITEMS

MINNESOTA SATISFACTION QUESTIONNAIRE

The purpose of this questionnaire is to give you a chance to tell how you feel about your present job, what things you are satisfied with and what things you are not satisfied with.

On the basis of your answers and those of people like you, we hope to get a better understanding of the things people like and dislike about their jobs.

On the following pages you will find statements about your present job.

Read each statement carefully.

Decide how satisfied you feel about the aspect of your job described by the statement.

Keeping the statement in mind:

-- if you feel that your job gives you more than you expected, check the box under "Very Sat." (Very Satisfied);

-- if you feel that your job gives you what you expected, check the box under "Sat." (Satisfied);

-- if you cannot make up your mind whether or not the job gives you what you expected, check the box under "N" (Neither Satisfied nor Dissatisfied);

-- if you feel that your job gives you less than you expected, check the box under "Dissat." (Dissatisfied);

-- if you feel that your job gives you much less than you expected, check the box under "Very Dissat." (Very Dissatisfied).

Remember: Keep the statement in mind when deciding how satisfied you feel about that aspect of your job.

Do this for all statements. Please answer every item.

Be frank and honest. Give a true picture of your feelings about your present job.

ON MY PRESENT JOB, THIS IS HOW I FEEL ABOUT . . .	Very Dissat.	Dissat.	N	Sat.	Very Sat.
1. The chance to be of service to others .	☐	☐	☐	☐	☐
2. The chance to try out some of my own ideas	☐	☐	☐	☐	☐
3. Being able to do the job without feeling it is morally wrong	☐	☐	☐	☐	☐

	Very Dissat.	Dissat.	N	Sat.	Very Sat.
4. The chance to work by myself.	☐	☐	☐	☐	☐
5. The variety in my work.	☐	☐	☐	☐	☐
6. The chance to have other workers look to me for direction.	☐	☐	☐	☐	☐
7. The chance to do the kind of work that I do best	☐	☐	☐	☐	☐
8. The social position in the community that goes with the job	☐	☐	☐	☐	☐
9. The policies and practices toward employees of this company	☐	☐	☐	☐	☐
10. The way my supervisor and I understand each other.	☐	☐	☐	☐	☐

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PATIENT SATISFACTION WITH ADJUSTMENT TO BLINDNESS TRAINING SCALE

Developer(s)

This scale was developed by Walter Needham and William R. De L'Aune, both at the Veterans Administration Hospital in West Haven, Connecticut, in 1975.

Purpose

The scale is designed to measure client satisfaction with residential adjustment to blindness training.

Description

The scale consists of 27 items which measure client satisfaction with services provided via residential adjustment to blindness training. Client satisfaction is assessed in the following areas: length of training, orientation and mobility, manual skills, communication training (e.g., typing and use of recording devices), braille training, recreation, living skills (e.g., grooming, cooking, room maintenance), social work services, psychological services (e.g., testing, counseling, and psychotherapy), blindfold training in mobility (for persons not totally blind), general satisfaction with blind skill training, and satisfaction with one's life.

The items on the scale are either checklists or open-ended. The checklist questions usually involve five alternative answers which range from expressions of extreme dissatisfaction based upon a lack of services and training to satisfaction with adequate training and services to extreme dissatisfaction based upon an overabundance of training.

Use

The scale is designed to be used with blind or low vision clients. It seems useful in settings where skill development is to occur (e.g., rehabilitation facilities). It is beneficial to program managers as well as case managers. Indications of client satisfaction/dissatisfaction alert program managers to needed modifications in the program and may also underscore existing beneficial aspects of the program. This scale seems to have the potential for providing a longitudinal assessment by which to measure effects of changes in the program and serving as a comparison with other agencies.

Administration

This self-report scale is mailed to the client at least six months after the completion of training. It may be self-administered or administered by a reader if the client does not have sufficient sight. The time required to complete the scale is about 20-30 minutes.

Scoring

The item responses are weighted from 1 to 5, with 1 representing extreme dissatisfaction due to a lack of services provided and 5 representing extreme dissatisfaction because of too much training. For each item, frequency counts and percentages are determined for each answer choice as well as the mean score and standard deviation. The mean scores of relevant items can then be used to establish satisfaction indices in each of the blind skill areas, for overall patient satisfaction, and for life satisfaction. The scale can be hand scored.

Reliability	The reliability of this scale has not been determined.
Validity	This scale has not been formally validated. However, subsequent feedback from patients on an informal basis (i.e., phone calls, return visits) seems to indicate that the obtained results do reflect patients' views accurately.
Advantages	The rating system specifies the nature of the dissatisfaction.
Limitations	The construction of the scale tends to limit the positive expression of satisfaction since one cannot express extremes within the present format of the questions. For instance, only one alternative denotes satisfaction while four denote varying degrees of dissatisfaction.
References	Needham, W. E. & De L'Aune, W. R. Patient satisfaction with residential adjustment to blindness training. New Outlooks for the Blind, May, 1976, 70 (5), 182-187.
Availability	Single copies of the scale can be obtained from ---

Walter Needham
Psychology Services
VA Medical Center
West Haven, CT 06516

PATIENT SATISFACTION WITH ADJUSTMENT
TO BLINDNESS TRAINING SCALE

Please check one of the following answers to each question.

3. Consider the amount of mobility training you received. Which of the statements below best describes your feelings about it?

____ 1. I wanted or now find that I needed much more mobility training.
____ 2. I wanted or now need a little more mobility training than I received.
____ 3. I received just the right amount of mobility training.
____ 4. I received slightly more mobility training than I wanted or could use.
____ 5. I received much more mobility training than I wanted or could use.

4. In evaluating the Manual Skills or shop training you were provided with at the Center, which of the following statements are most true?

____ 1. I would have liked or find that I needed a great deal more Manual Skills.
____ 2. I would have liked or find that I needed a little more Manual Skills than I received.
____ 3. I received just about the right amount of Manual Skills training.
____ 4. I received a little more Manual Skills training than I wanted or needed.
____ 5. I received much more Manual Skills training than I wanted or needed.

5. Which of the following expresses your feeling about your Communications classes (typing, uses of recording devices, etc.)?

____ 1. I needed or wanted much more training of this type.
____ 2. I needed or wanted a little more training of this type.
____ 3. I received about what I needed or wanted of this type of training.
____ 4. I received slightly more training of this type than I needed or wanted.
____ 5. I received much more of this training than I needed or wanted.

11. Consider the recreational activities you had while at the Center, such as bowling, dancing, golf, fishing, etc. Were these--

____ 1. Far too few?
____ 2. A few less than would be desirable?
____ 3. About the right number?
____ 4. A few more than was good?
____ 5. Far too many?

12. To what extent would you like to have participated in an intensive physical education and/or physical conditioning program at the Center?

____ 1. Very much for it
____ 2. Somewhat for it
____ 3. Feel indifferent about it one way or another
____ 4. Would be somewhat against it
____ 5. Would be very much against it

13. In general, how satisfying is your life at the present time?

____ 1. Extremely satisfying
____ 2. Somewhat satisfying
____ 3. Neither satisfying or unsatisfying
____ 4. Slightly unsatisfying
____ 5. Very unsatisfying

14. "Minicourses" or refresher courses are available at the Center. Do you:

1. Like this idea? ____ yes ____ no
2. How long should they be? _____
3. How long after taking the first program should a person have to wait to be eligible for them? _____
4. What should they emphasize? _____

15. Blindfold training in Manual Skills was--

____ 1. Very helpful
____ 2. Somewhat helpful
____ 3. Neither helpful or detrimental
____ 4. Somewhat detrimental
____ 5. Very detrimental
____ 6. Question does not apply--did not have blindfold training in Manual Skills.

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SCALE OF CLIENT SATISFACTION

Developer(s)

The Scale of Client Satisfaction was developed by Kenneth W. Reagles, George N. Wright, and Alfred J. Butler at the Regional Rehabilitation Research Institute, University of Wisconsin - Madison in 1969.

Purpose

This scale is designed to assess former rehabilitation clients' satisfaction with rehabilitation services. It is a follow-up scale.

Description

The scale consists of 14 items. The items are multi-point ratings or yes/no responses. The scale assesses former rehabilitation clients' satisfaction with services received from the rehabilitation agency. The areas investigated include satisfaction with time spent with the counselor.

Use

The scale can be used with all clients and is useful to case managers and program managers. Information on clients' satisfaction or dissatisfaction with program services is valuable in identifying strengths and weaknesses of programs and can lead to more planning and improved service delivery.

An expanded and refined version would represent an important step in the continuing effort to assess the impact of rehabilitation upon the individual served. Perhaps its greatest use - since a single score of satisfaction is obtained - would be to determine the correlates of satisfaction and to determine which interventive counselor functions are most related to clients' expressed satisfaction.

Administration

The scale is self-report, and it is recommended that the scale be administered six months after closure. It can be administered via mail survey or personal interview.

Scoring

An item weighting scheme was developed using RAVE analysis, which would maximize the scale's internal consistency. A total score of client satisfaction for each client is calculated by summing the appropriate weights for the 14 item responses given.

Reliability

This scale was administered to 483 rehabilitated clients six months after successful closure. A Hoyt reliability coefficient of .83 was obtained, indicating evidence of the scale's unidimensionality. Inter-item correlation coefficients ranged from .09 to .67, with most between .22 and .31.

Validity

The developers report content validity based on the agreement of individuals knowledgeable in the dimensions of client satisfaction.

Advantages — The developers report that this measure yields a total score that could be considered as interval data.

Limitations — While the items sample client satisfaction with a relatively wide range of rehabilitation activities, they tend to emphasize the client's response to direct interaction with the counselor. Therefore, the items may not fully represent the concept of client satisfaction.

References

Reagles, K. W., Wright, G. N., & Butler, A. J. Correlates of client satisfaction in an expanded vocational rehabilitation program. Wisconsin Studies in Vocational Rehabilitation, Monograph XII, Series 2, 1970.

Reagles, K. W., Wright, G. N., & Thomas, K. R. Client satisfaction as a function of interventive counselor behaviors. Rehabilitation Research and Practice Review, Special Spring Issue, 1972, 3 (2), 23-29.

Reagles, K. W., Wright, G. N., & Thomas, K. R. Development of a scale of client satisfaction for clients receiving vocational rehabilitation counselor services. Rehabilitation Research and Practice Review, Special Spring Issue, 1972, 3 (2), 15-22.

Availability — The scale is included in the Reagles et al. (1970) reference cited above. It can be obtained from ---

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161

It is a part of the following document:

University of Wisconsin Regional Rehabilitation Research Institute. Wisconsin Studies in Vocational Rehabilitation. Series 2. Monographs XI Thru XVI.

Order No. PB 261 175/AS

SCALE OF CLIENT SATISFACTION

2. In dealing with your disability, who do you feel has helped you the most? (Check only the one who is most important.)

   1 Doctor or medical specialist
   2 Psychiatrist or psychologist
   3 Rehabilitation counselor
   4 Counselor in an agency other than Vocational Rehabilitation
   5 Teacher or teachers
   6 Clergy member (minister, priest, or rabbi)
   7 Other (explain)

8. Do you feel that the counselor understood your problems and feelings?

   1 Yes 0 No

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MISCELLANEOUS MEASURES

KIRESUK/SHERMAN GOAL ATTAINMENT SCALING (GAS)

Developer(s)

GAS was developed by Thomas J. Kiresuk and R. E. Sherman in the late 1960's as part of the National Institute of Mental Health Program Evaluation Project located in Minneapolis, Minnesota.

Purpose

GAS is a procedure for identifying defined goals and outcomes for clients and thus demonstrating change within the client while in the rehabilitation process or after treatment.

Description

Each goal that is set constitutes a scale, or follow-up guide. The number of scales within the procedure will vary in that the number of goals of the different clients will vary. However, each scale has five levels as follows: (1) most unfavorable outcome thought likely, (2) less than expected success with treatment, (3) expected level of treatment success, (4) more than expected success with treatment, and (5) most favorable treatment outcome thought likely. The areas investigated are essentially left to the discretion of the examiner and/or the client. Objectives can be designed to address any concern. The goals do not have to be behavioral but often are. Any content that can be reliably followed up is acceptable (e.g., documents, what someone says, test scores, grades, self-reports, blood pressure, owns a car, is drunk during interview, etc.). If the procedure is being used solely as a treatment facilitator, where reliability is not such a great concern, less restrictive goals would be acceptable.

Use

The procedure is appropriate for use with all clients. It can be used in various settings (e.g., rehabilitation facilities, sheltered workshops, state-federal VRS, etc.) and has been used in both rehabilitation and non-rehabilitation settings. It is usually used with individuals, but it could be used for defining goals and outcomes for couples or families as well.

This procedure is beneficial to both case managers and program managers. For case managers, the definition of goals and objectives results in a sounder Individualized Written Rehabilitation Plan, and change scores help delineate intermediate goals that are necessary for the end goal of successful rehabilitation. It has also been shown to have a treatment facilitating effect in counseling treatments. Program managers will find the GAS procedure beneficial in administrative goal setting and in specifying program and counselor effectiveness.

Client self-constructed goal formats have also been adapted from this procedure.

Administration

GAS uses a combination of professional observation, self-report, and often the report of others (i.e., family). At intake the clinician, working with the client, sets three to five

individualized goals for the client and establishes a scale of outcomes based on the five levels described in the Description section above. Those administering this procedure will require some orientation to learn to write behaviorally relevant goals and expected outcomes.

Follow-up assessments can be conducted at various points (e.g., predetermined intervals during treatment, termination, or post-treatment). It is recommended that someone with a B.A. administer the follow-up assessment, but in practice the level of training of the administrator varies depending on the content of the goals and the difficulty in collecting the outcome data. Outcome data can be obtained through the records, by telephone, by mail, or in an interview. The intake process takes about 20 minutes to complete, and the follow-up assessment takes about 15 minutes.

This process is usually an individualized one. However, degrees of standardization have been used in programs with clear prior expectations or highly similar clients.

Scoring

The scale scores at follow-up are weighted, summed, and converted to a standard score ($\underline{M}$ = 50, $\underline{SD}$ = 10). Hand scoring is possible with individual assessment, but computer scoring is required for larger program assessment. Tables are available for calculating scores, as well as a pocket-computer program. GAS users make use of both item achievement data and the total GAS score. Researchers usually use the GAS score alone.

Reliability

Test-retest reliability was examined by comparing the follow-up guides that were constructed by two different clinicians (intake workers and therapists) at two different points in time (about two weeks apart). The reliability coefficient yielded was .83.

Interrater agreement examined in two studies ranged from .95 to .99 in one study and from .66 to .81 in the other, which had an average of 25 days between scoring interviews. Extensive training of interviewers and unambiguous follow-up guides are important in achieving an acceptable level of interrater reliability.

In another study clients and staff scored 50 client-constructed follow-up guides. The correlation between the scores was .88. When clients and staff scored 10 staff-constructed guides, there was a correlation of .86. The correlation between clients' scoring of 10 client- and staff-constructed guides was .93, while the correlation between staff scorings of the 10 client- and staff-constructed guides was .90. The intraclass correlation for follow-up rater pairs was .87.

The internal consistency of the procedure was not expected to be high; the goals were not expected to be highly correlated. The intercorrelation of the scales within clients was .27 for a sample of 693 people.

Validity

The developers report a good match of follow-up guide content with client problem lists in a crisis center and good overlap in content between staff- and client-constructed goals in a day treatment program as evidence of the procedure's content validity.

Goodyear and Bitter (1974) found that this procedure could be used to assess client change in the rehabilitation setting. Based on 41 patients in a family and patient service unit of a rehabilitation hospital, a significant difference was found between mean ratings at the time of GAS construction by the client's counselor and follow-up 6 to 12 weeks later by other staff members (t = 10.05, $p < .01$). Mean follow-up ratings reflecting rehabilitation improvement were higher (50.88) than ratings at the time of admission (34.87). It should be noted that in practice the developers do not recommend the use of the pre-post change score; the follow-up score itself is a change score.

The ability of the rehabilitation counselor to predict client outcome was also examined. No significant differences were found between the counselor's perception of expected outcomes at the time of GAS construction and actual outcomes. The mean expected score for each of the five counselors involved was 50.00. The range of actual outcome scores for the counselors was 48.39 to 53.90.

Advantages

Several advantages are derived from the use of this procedure. First, the client can play a significant role in developing goals and objectives, and in such cases GAS can become a treatment facilitator. Second, it has great flexibility (i.e., goals and weights are individually selected, client can be compared with himself/herself). Third, when added to more standard measures, GAS gives the clinician a needed dimension for client relevance. Fourth, the accomplishments of the staff may be better reflected as outcomes other than gainful employment are acknowledged. Finally, the procedure can be applied in many situations (i.e., clinical process, quality assurance, peer review).

Limitations

First, the staff may resist learning to think in a goal-oriented fashion. Second, the procedure does not work well when administered before enough is known about the client (e.g., emergency situations). Third, the psychometric properties may vary depending on the use of the process. Also, the summary score is not very useful in across-program comparisons; the fact that it does not have "one" meaning is confusing.

References

Goodyear, D. L. & Bitter, J. A. Goal attainment scaling as a program evaluation measure in rehabilitation. Journal of Applied Rehabilitation Counseling, Spring, 1974, 5 (1), 19-26.

Kiresuk, T. J. & Sherman, R. E. Goal attainment scaling: A general method for evaluating comprehensive mental health programs. Community Mental Health Journal, 1968, 4 (6), 443-453.

A bibliography on Goal Attainment Scaling can be obtained from the Program Evaluation Resource Center (see Availability section below for address).

Availability

Materials related to Goal Attainment Scaling can be obtained from ---

Program Evaluation Resource Center
501 Park Avenue South
Minneapolis, MN 55415

GOAL ATTAINMENT SCALE

PREDICTED ATTAINMENT	Scale 1	Scale 2	Scale 3	Scale 4
MOST UNFAVORABLE OUTCOME THOUGHT LIKELY				
LESS THAN EXPECTED SUCCESS				
EXPECTED LEVEL OF SUCCESS				
MORE THAN EXPECTED SUCCESS				
MOST FAVORABLE OUTCOME THOUGHT LIKELY				

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REHABILITATION GAIN SCALE

Developer(s)

This scale was developed at the University of Wisconsin Regional Rehabilitation Research Institute in the late 1960's. Kenneth W. Reagles, George N. Wright, and Alfred J. Butler were involved in its development.

Purpose

The Rehabilitation Gain Scale is designed to assess client change due to rehabilitation services.

Description

The scale consists of twenty items - both multiple choice and fill-in - addressing mental and physical health, vocational outlook, economic status, and participation in various social and leisure activities.

Use

The measure has been used with the physically and emotionally disabled, mentally retarded, and culturally disadvantaged. (See Reliability section for further details on how this scale was used with these client groups during scale development).

The ability to assess the client's status on this scale at any point in time broadens the uses to which this measure can be put. Counselors can use it to evaluate client progress and their own effectiveness. Program evaluators can use it for program planning, legislative documentation, and counselor evaluation. Program evaluators and researchers who are interested in looking at outcomes can use this scale as a dependent variable measure; demographic and process variables can be examined for their influence on client outcomes.

This scale was a precursor to the development of the Human Service Scale, also developed at the University of Wisconsin Regional Rehabilitation Research Institute.

Administration

The scale may be self-administered or administered in an interview. Pre- and post-measures need to be taken.

Scoring

An item weighting scheme was developed using RAVE analysis, which would maximize the scale's internal consistency. A total score for each client is calculated by summing the appropriate weights for the item responses given.

Reliability

The reliability data reported below were based on client performance on this scale's 20 items as they appeared within pre- and post- rehabilitation measures administered as part of a client test battery for a pilot expanded vocational rehabilitation program. The 20 items were not administered as a unit; item selection and statistical computations necessary to establish this scale were done after the entire client test battery had been administered.

Hoyt reliability coefficients yielded by RAVE analysis were examined to determine if the 20 items actually measured a single underlying variable - that of rehabilitation gain. Data from 310 clients who had completed all of the necessary parts of the pre-post measures in the pilot program were used. Clients included the mentally and physically disabled, mentally retarded, and culturally disadvantaged. Three sets of data were examined: pre-rehabilitation level data, post-rehabilitation level data, and rehabilitation gain data. Coefficients were "moderately high" but acceptable for a scale composed of many seemingly unrelated items (.76 for the pre-rehabilitation level scale, .78 for the post-rehabilitation level scale, and .71 for the gain scale). These data, in addition to the acceptable limits of the pattern of derived weights, item-to-total score correlations, and inter-item correlations, indicate that this scale does reflect a single variable.

Validity — The developers report content validity based on the scale's coverage of areas traditionally included as measures of rehabilitation outcome.

Advantages — The client can be assessed at any point in time, and the scale has important potential as a research instrument for the measurement of the differential effects of VR intervention.

Limitations — The domain of rehabilitation gain is not fully reflected.

References — Reagles, K. W., Wright, G. N., & Butler, A. J. Rehabilitation gain: Relationship with client characteristics and counselor intervention. Journal of Counseling Psychology, 1971, 18 (5), 490-495.

Reagles, K. W., Wright, G. N., & Butler, A. J. A scale of rehabilitation gain for clients of an expanded vocational rehabilitation program. Wisconsin Studies in Vocational Rehabilitation, Monograph XIII, Series 2, 1970.

Availability — The scale is included in the Reagles et al. (1970) reference cited above. It can be obtained from ---

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161

It is a part of the following document:

University of Wisconsin Regional Rehabilitation Research Institute. Wisconsin Studies in Vocational Rehabilitation. Series 2. Monographs XI Thru XVI.

Order No. PB 261 175/AS

SAMPLE ITEMS

REHABILITATION GAIN SCALE

Item 4: "If the work you prefer were available, what would be your chances of getting such a job?"

1) almost certain; 2) very good; 3) 50-50; 4) not so good; 5) very little chance

Item 10: "If you work which of the following activities do you take part in where you work?"

a) Belong to some type of club or organization composed of people where I work or in my profession
b) Belong to a union; attend union meetings
c) Socialize after work hours with fellow workers
d) Other activities related to your work (describe) _____

Item 11: "What is the total number of hours you spend each week on the activities you circled in the list above?"

_____ hours per week.

Item 13: "Which of the following activities do you take part in with other people in your community?"

a) Sports: football, baseball, basketball, tennis, golf, etc.
b) Outdoor activities: hunting, fishing, hiking, etc.
c) Indoor activities: bowling, table tennis, dancing, cards, etc.
d) Organized social activities: social clubs, service clubs, card clubs, church-sponsored social activities
e) Other social activities (describe) _____

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VIRGINIA REHABILITATION GAIN SCALE

Developer(s)

The scale was developed by Alex Hawryluk of Old Dominion University for the Virginia Department of Vocational Rehabilitation from 1972-1973. It was patterned after the Rehabilitation Gain Scale, developed at the University of Wisconsin Regional Rehabilitation Research Institute.

Purpose

The scale purports to measure client change and sustention of gain.

Description

The 14-item scale includes vocational items and self-perception measures. Areas investigated include the work status, economic dependency, and psychological well-being of clients who have received VR services. All items are multi-point.

Use

The scale was designed for use with disadvantaged/disabled clients. It has been used in vocational rehabilitation outreach programs in cooperation with the Model Cities program. It is appropriate for all categories of vocational rehabilitation clients.

The scale is useful to both case managers and program managers. Pre-measures may alert case managers to needed services. This measure is useful to program managers in evaluating the impact of both experimental and routine programs. Comparisons of pre- and post-measures indicate changes derived from program participation, thereby offering program managers an indication of the effectiveness of the program. The effectiveness of different programs can also be compared.

Administration

The scale can be administered by a counselor, social worker, case aide, or experienced, mature clerical staff person in 30 minutes (10 minutes if the psychological well-being section is excluded). The psychological well-being section requires self-report by the client. It is recommended that the measure be administered at referral and again at follow-up (after one year).

Scoring

This scale compares clients' changed economic and employment status with a larger vocational rehabilitation constituency. The dimensions that are scaled are hours per week gainfully occupied, weekly earnings, work status, economic dependency, and psychological well-being (optional). Improvement or deterioration along each of these dimensions is calculated for each client. It is then compared to the larger client population. The client's change as compared with the average change for all clients is converted to a scale value. The scale values for each dimension are totaled to yield a gross rehabilitation gain (or loss) value. This approach permits

the synthesis of values from essentially dissimilar criteria (e.g., work status and weekly earnings).

Scores can be interpreted along individual dimensions to show relative improvement in earnings/occupational status, etc., or as an aggregated measure of economic, occupational, and psychological well-being.

The measure is hand scored and can easily be adapted to machine scoring.

Reliability

The developer reports that the scale was pretested on a sample of 25 clients and subsequently administered successfully to a population of 433 vocational rehabilitation clients. However, no evidence of reliability was presented in the materials reviewed.

Validity

Of 433 clients referred to an experimental vocational rehabilitation program, follow-up data one year after referral relating gain to last status were obtained on 183 clients. The follow-up group did not constitute a random sample of the referred clients; the group contained a disproportionate number of blacks, females, persons with psychological rather than physiological disabilities, and referrals from bureaucratized organizations. The findings indicated that one year after referral clients closed rehabilitated (Status 26) showed higher gains (mean gain 2.06) than clients still in process (mean gain -3.08) or clients rejected or closed not rehabilitated (mean gain 1.07) (chi-square = 10.33, 6 df).

Advantages

Advantages of using this instrument include the following: (1) it is easily scored; (2) the focus is on client characteristics salient to the basic mission of vocational rehabilitation; (3) key dimensions are behavioral, thereby avoiding counselor and client bias (excluding the psychological well-being dimension, which is served by a client-completed self-perception instrument); (4) high content and face validity are reported by the developer; and (5) pre- and post-measures are obtained.

Limitations

The major difficulty of the scale is with the administration of the follow-up instrument. Client inaccessibility encumbers the data gathering process.

References

Bassett, P. T. Measurement of outcomes: A report from the study group on measurement of outcomes. First Institute on Rehabilitation Issues, Denver, Colorado, April 15-17, 1974. Institute, West Virginia: Research and Training Center, 1974

Hawryluk, A. Rehabilitation gain: A new criterion for an old concept. Rehabilitation Literature, November, 1974, 35 (11), 322-328.

Availability — Assistance in the construction of such scales is available upon the request of responsible agencies from ---

Alex Hawryluk, Chairman
Management Department
School of Business
Old Dominion University
Norfolk, VA 23508

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